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# MUNICIPAL JOURNAL AND ENGINEER

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### SPECIAL NOTICE

In the respective following issues of the Municipal Journal and Engineer considerable space will be devoted specially to the subjects as indicated:

-1906-

- July 4th - - - WATER
- August 1st - - - SANITATION
- September 5th - - - THE CITY BEAUTIFUL  
- Parks, Monuments, Etc.
- October 3d - - - FIRE AND POLICE
- November 7th - - - LIGHTING  
- Gas, Electricity, Etc.
- December 5th - - - BRIDGES

# MUNICIPAL JOURNAL AND ENGINEER

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Readers are invited to contribute to the MUNICIPAL JOURNAL AND ENGINEER, either in the form of special articles or of letters discussing matters of current interest.

It is also desired that the facilities furnished by the reference library in this office should be widely known and freely used by those interested in municipal affairs. Visitors will be welcomed and provided with conveniences for search, and inquiries by mail will be promptly dealt with.

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### Two Telephones Tales

We have obtained from the New York Telephone Company and the Atlantic Telephone Company, respectively, twelve specific reasons as to why the first named company alone should operate New York City and twelve specific reasons as to why the second named company considers a second service to be advantageous to the community. We print these in parallel columns on another page in this issue. We recommend the two sets of claims to the careful consideration of our readers. We have secured these specific couple of dozens of reasons direct from the companies themselves and therefore have not had to depend upon printed reports or what other people or bodies may say or think. We are not concerned, in any way, in either of the above companies, nor do we care a single rap which of the two serves the city. All we care about is that the service shall be courteous, prompt, economical and thorough. We write this as a citizen. If one company can

give all that two companies can give, then let that company give it. But if two companies can give more and at a cheaper rate than one can give, then by all means let us have the two companies and the keen, healthy competition such installations will command, even at the risk of more troublous tearing up of the streets and further occlussions of the landscape, duplications and so forth that are sure to follow. Above all—and again we write as a citizen—there should be no favors granted to any one, or to any half a dozen companies. An open city for the best and cheapest telephone service that can be secured is our cry and the cry of everyone else having to use it. It is notorious that the charges in New York City are at the present time excessive, as compared with existing conditions in other countries, even overlooking the fact of the much greater advantages given in many cities even in this country. At present, the regular, or average resident (who is the regular, average citizen), will pay to the New York Telephone Company on and after July 1st next for a minimum of fifty calls, that is, six hundred calls a year for his home or apartment, eight cents a message, whereas the irregular, casual customer will be able to go to any telephone station and do his talk for five cents. In other words, the average, regular resident is compelled to make a contract with the New York Telephone Company to pay three cents a message more than the person whose demand is irregular and infrequent. There has, furthermore, been nothing approaching a proportionate reduction for the larger consumers. Those who contract for 2,400 messages will have to pay exactly the same rate that the man in the street can get his odd-time message for. This condition is ridiculous. The business men of this city are the biggest customers the company has and they should have consideration prior to anybody else. If the Atlantic Telephone Company can guarantee as good a service at rates at from 2 cents minimum to 5 cents maximum, as they claim they can, they will naturally obtain, as they ought, the bulk if not all of the business. The present unsatisfactory state of affairs is making a lot of people think a lot of things, whilst a number of them, leading commercial men, are expressing themselves strongly in favor of the city owning and operating its own telephones, thus hoping for a far cheaper and, at least, as good a service as the present one. We trust that the "City Fathers" will look at the matter purely from the point of view of the greatest good for the greatest number, irrespective of inflated promises and widely advertised sentiments. The report that a third company is in the field for a franchise adds a further element of unrest and indecision to the whole matter.

**Brevities**

ATLANTIC CITY, N. J., Council has notified the Atlantic City & Suburban Traction Company that unless Florida avenue from the Boardwalk to the north line of the city is paved with vitrified brick, as specified by the ordinance, within thirty days, the tracks of the company will be torn up and the franchise become null.

BALLARD, WASH., City Council has rejected the application of 742 citizens for a special election to vote on the question of annexation to Seattle.

BALTIMORE, Md., will shortly test in the courts the validity of the proposed \$5,000,000 water loan.

BORDENTOWN, N. J., Council has decided to have sidewalks about which complaints are made repaired at once, the cost being assessed against the adjoining property owners.

BOSTON, MASS., city payroll book of May 1, just issued, shows 12,967 officials and employes in the city and 559 in the county of Suffolk, making a total of 13,526. In the city departments the school teachers lead with 2,971; the police are second, 1,261; the Street, including pavement department and ferries, 1,158; the Fire Department, 949, and the Sewer Department, 903. The totals differ only slightly from last year.

BUFFALO, N. Y., Aldermen, on recommendation of Mayor J. N. Adam, will investigate the lighting question, as the contract with the Buffalo Gas Company expires March 1. In Cleveland, the Mayor states, the cost of incandescent gas lights is less than flat flames cost Buffalo, while Welsbach lights cost double what Cleveland pays.

CHICAGO, ILL., will have \$707,450 to spend on West Side parks. Merry-go-rounds and grotesque flower beds do not enter into the scheme, the purpose being to give a quiet and restful country landscape.

GALLITZIN, PA., citizens have voted \$20,000 bonds to build a school house. The borough has a property valuation of \$500,000 and a debt of \$28,000.

HOUSTON, TEXAS, citizens have voted to buy the plant of the Houston Water Company for \$900,000. Another election will shortly be held to vote an issue of \$500,000 bonds for the purpose, the remaining \$400,000 being represented by an assumption of the debts of the Water Company.

INDIANAPOLIS, IND., officials are considering plans for establishing bathing places, and it is expected by Mayor Bookwalter that before the expiration of his term of office an appropriation of \$30,000 or \$40,000 will be made to build a public bath.

JOHNSTOWN, PA., may construct a special reservoir for fire purposes which will enable the city to dispense with engines and install double the present number of hydrants; the present supply is inadequate and of insufficient pressure.

McKEES ROCKS, PA., Borough Council has adopted a new ordinance prohibiting the stopping of trains on the crossings, with a penalty of fine and imprisonment for engineers and conductors who violate its provisions.

MINNEAPOLIS, MINN., Council is considering an ordinance of Alderman Platt B. Walker which compels

plumbers, telephone companies, the gas and electric companies and all other persons or corporations which open the streets, to replace them in proper condition.

NEW YORK, N. Y., Board of Estimate is considering the appropriation of \$2,000,000 to begin the erection of modern up-to-date station houses, the old buildings having been condemned on various occasions by Boards of Health, Police Commissioners and other officials.

PHILADELPHIA, PA., Finance Committee has recommended fixing the tax rate on property for 1907 at \$1.50; also the transfer of \$115,000 to the City Commissioners to carry out the personal registration system.

PITTSBURG, PA., in order to save interest, has purchased an additional million dollars' worth of its filtration bonds, making \$3,700,000 bought in. Another million dollars' worth of the issue will probably be taken up next year.

ROCHESTER, N. Y., must continue to use the old bridge across Lyell avenue, Governor Higgins having vetoed the Legislative bill appropriating \$60,000 for a new structure, because the city contributed nothing toward the project.

SCRANTON, PA., is having a new \$50,000 fire alarm system installed.

TAKOMA PARK, MD., Council, just installed, has reduced the tax rate from \$1.50 to \$1.40 per \$100 of assessed valuation. Mr. Wilmer G. Pratt succeeds Mayor J. B. Kinnear, who served four years.

TROY, N. Y., will shortly begin using its new water supply, which, up to January 1, cost the city \$1,425,855. A new reservoir longer than Saratoga lake, with an average width of half a mile, has been constructed in Tomhannock valley, and is fed by three creeks and a number of smaller streams capable of furnishing the city 18,000,000 gallons daily.

**Some Unusual Fires**

BUFFALO, N. Y.—Hotel Mint burned, May 28. Cause, defective insulation of electric wire. Amount of damage, \$20,000.

EVANSVILLE, IND.—Lumber plant of Henry Maley & Co. and other buildings burned, May 29. Cause unknown. Amount of damage, \$150,000.

JEFFERSON, OHIO.—Twelve buildings in business center burned, June 1. Assistance of departments from Ashtabula and Andover saved rest of town. Cause, drying new paint with an oil stove. Amount of damage, \$100,000.

MANAYUNK, PA.—Two dwellings and Radcliffe & Ferguson's boiler works burned, May 29. Shop burned while fire companies disputed as to jurisdiction. Cause, incendiary. Amount of damage, \$12,000.

NEW YORK CITY.—Several copper-sheathed wooden cars, supposedly fire proof, burned in the Subway, June 1. Cause, collision made short circuit through broken platforms of car. Amount of damage, \$20,000.

OMAHA, NEB.—Hayden Bros., department store, insignificant fire, June 3. Automatic sprinklers flooded building. Cause unknown. Amount of damage, \$300,000.

SOUTH BOSTON, VA.—Business section of town burned, June 1. Cause, lighted cigarette in a stable. Amount of damage, \$250,000.

AN EIGHT-HOUR DAY ON ALL MUNICIPAL AND STATE CONTRACT WORK at the prevailing rate of wages is provided for in a New York Legislative bill signed by Governor Higgins. It is a reenactment of Section 3 of the Labor bill, which, before the adoption of the constitutional amendment last year had been declared unconstitutional.

GOVERNOR CURTIS GUILD of Massachusetts has signed a legislative bill regulating the sale of gas in Boston. The measure provides a systematic reduction in the price of gas, the reduction being based on the ratio of earnings of the companies affected. The bill is a result of a visit of a committee to England, where the system is in operation.

THE AMERICAN NATIONAL FEDERATION COMMITTEE inspected the municipal lighting system of Glasgow, Scotland, recently, and later the members were entertained at a banquet, at which Baillie Willocke of the Electricity Department presided. Mr. M. E. Ingalls said that when the next election in the United States came they would have facts concerning municipal ownership to put before the electorate, and they could not come to a better place than Glasgow to get them; Mr. Milo R. Maltbie said the delegation had been impressed with the municipal government of Glasgow and its success in carrying out the wishes of the people, which he thought was due to the fact that it had a class of officials who are familiar with the business they conduct, as they remained in their offices for long periods. Baillie Grey, in responding, said Glasgow had learned much from the United States, and he was glad the United States might find something worth copying in Glasgow.

THE CIVIL SERVICE COMMISSIONS of the United States formed a permanent organization at Washington recently, representatives being present from municipal, State and the Federal commissions. Officers were elected as follows: President, Charles S. Fowler of the New York City commission; first vice-president, Dr. J. C. Mason of New York; second vice-president, Henry Sherwin; secretary-treasurer, John T. Doyle of the United States Civil Service Commission.

THE ILLINOIS BRICK COMPANY, in its fight against the independent concerns, is selling brick at \$4 a thousand in Chicago, the former price being \$8. The cost of production, it is asserted, is more than the selling price.

THE ILLINOIS GOOD ROADS COMMISSION, recently appointed, will construct three miles of model highways at Bartonville Asylum, Peoria, under the direction of E. W. Sheets, Superintendent of Construction for the State Commission. A school for the construction of good roads may also be conducted at the asylum during the work, and those interested will be afforded an opportunity to study the method adopted and inspect the plant.

THE INCORPORATED PUBLIC ACCOUNTANTS OF MASSACHUSETTS met in Boston recently and elected the following officers: President, Harvey S. Chase; Secretary, William Dillon; Treasurer, William C. Newell; Auditor, Joseph S. Parsons; Members-at-large, Executive Committee, William Franklin Hall, Herbert F. French and Frederick C. Tufts.

MR. J. AUTONISEN, engineer of the Canadian Pacific terminals at Winnipeg, Man., has resigned to become Town Engineer of Port Arthur, Ont., Canada.

FIRE MARSHAL JOHN E. CAMPION of Chicago, Ill., has been removed from office by Mayor Dunne. The trouble originated in a dispute regarding the specifications of new fire engines which it is proposed to purchase.

CITY ENGINEER EDWIN A. FISHER and Superintendent B. C. Little of Rochester, N. Y., entertained Lockport, N. Y., officials interested in conduit building, with a trip to Rush and Richmond Mills, two important stations on the city conduit line.

MESSRS. RUDOLPH HERING, SAMUEL M. GRAY and Frederic P. Stearns, the sewage experts employed to design a sewage disposal plant for Baltimore, Md., have submitted their report to the City Council. A sprinkling filter system is recommended.

MR. CHARLES E. HUGHES, the attorney who conducted the New York insurance investigation, and Senator Alfred R. Page, the father of the eighty-cent gas bill, have been designated by Attorney-General Mayer, of New York, to assist in defending the action of the Consolidated Gas Company to restrain enforcement of the eighty-cent gas law in Gotham.

MR. W. V. INGHAM, for thirty years City Engineer of Wilkes-Barre, Pa., died at his summer home, Dallas, Pa., recently. Prior to becoming City Engineer he was Street Commissioner and also Engineer of Sewers of the city. He was an only son of Dr. Charles F. Ingham of Wilkes-Barre, a noted civil engineer and geologist, and was associated with him in laying out Seat Girt, N. J.

MR. THOMAS LAMBERT, formerly with Charles A. Bruce, of Pittsburg, has been appointed chief plumbing inspector of Allegheny, Pa.

MR. J. G. LINDSAY has been appointed City Engineer of Guelph, Ont., Canada.

CITY ENGINEER HARVEY LINTON and Messrs. George W. Kuebler, J. B. Andrews and George A. Klesius, members of the Board of Public Works of Altoona, Pa., made a trip to Chicago, Grand Rapids and Kalamazoo, where they inspected the plants and studied the methods of manufacturing sheet asphalt paving, paving brick and asphalt filler for brick paving. Considerable paving will be done in Altoona during the season.

MR. WARREN R. MANNING, the landscape architect of Boston, Mass., who planned the elaborate park system of Milwaukee, Wis., has been engaged to beautify Menominee, Wis., by State Senator J. H. Stout.

COLONEL BUCHANAN SCHLEY of Washington County, Md., has been appointed State Tax Commissioner, and George R. Ash of Cecil county, State Auditor, by the Maryland State Board of Public Works.

MR. ANGUS SMITH, formerly City Engineer of Stratford, Ont., Canada, has been made City Engineer at Regina, Sask., Canada, at an increased salary.

MR. RUFUS K. WOOD of the Maryland Steel Company, Baltimore, Md., has been commissioned a member of the State Board of Education, vice E. Stanley Gary, resigned.

## TWO TELEPHONES TALES TOLD

Twelve reasons why *one* system only should be used—supplied by the New York Telephone Company.

1. More than one telephone system in New York City would mean an increased outlay for the business community, since every business house would be obliged to subscribe to all systems to get a full service.

2. More than one telephone system would oblige those subscribers using all services to submit to the inconvenience of having more than one directory to consult, of more than one telephone on the desk, and the confusion of telephone bells ringing at the same time.

3. Exclusive users of rival systems could not communicate with each other, and would only get a partial service.

4. The damage and obstruction to streets incident to building and maintaining the underground part of a telephone plant will be greatly increased, if the present system should be duplicated.

5. Duplication of the present system would be an economic waste, inasmuch as there would be two organizations and two plants to maintain rather than one. Duplication would be very extensive throughout the entire system.

6. If another telephone system should be installed in New York the service of the second company would be forced on a large number of subscribers against their will and at an additional expense, inasmuch as both services must be utilized in order to get a full city service. Duplication compels the use of both systems.

7. Duplication impairs the utility and value of the service. The value of a telephone system depends on the number of subscribers one can reach, and adding new subscribers increases the value of the system. Setting up a rival system in New York, although it would help the telephone development of the city as regards the ratio of telephones to population, would not be real or effective development, since subscribers would be obliged to install both telephones at a double cost or else get a partial service.

8. The present service in New York City is admitted even by our would-be rivals to be highly efficient, and "bad service rendered by the present company" is an argument which does not in any way enter into the New York situation.

9. The present telephone plant is thoroughly up-to-date and the highest product of engineering skill. The plant is operated on a common battery system, which system is the highest development of the telephone art, and gives the most satisfactory service. Testimony of the leading telephone engineers of the world confirms this statement. The automatic telephone system has not been sufficiently developed for service in a large center and cannot be relied on to give efficient service in large installations. The largest automatic exchange in the world has only 7,000 telephones, whereas in the five boroughs of Greater New York there are at the present time over 260,000 telephones in operation. At the present state of automatic development it would be impossible to operate a system of this size on an automatic basis.

10. The new schedule of rates, effective July 1, brings the charges for the service to a point beyond all criticism; the pay station rate is made five cents and the contract rates to subscribers are brought down to a low point.

11. The present company has adopted the policy of restricting its earnings to a reasonable margin of profit and rates have been reduced each year for the past several years in line with this policy.

12. The position which this company has taken, offering to allow publicity of its rates, earnings, and methods of operation, obviates any danger of misuse of its monopolistic power.

Twelve reasons why *two* systems should be used—supplied by the Atlantic Telephone Company.

1. Two telephones in New York would not increase the outlay for the business community, since there would be nothing compulsory for a business man to subscribe for two telephones; the subscriber would only buy such service as was best and cheapest. A full answer to this reason from the facts are to be found on pages 38, 39, 40 and at the top of page 41 of our brief.

2. A full answer to Nos. 2 and 3 will be found in brief on pages 8, 9, 10, 11 and 12.

3. See No. 2.

4 is not a fact, because it would not be necessary to tear up the streets in Manhattan at all. The Empire City Subway Company, which is controlled by the New York Telephone Company, is a common carrier and is bound to furnish us with space, and the only hardship would be on us, as we would be compelled to pay tribute to the New York Telephone Company in the form of rental. This could be obviated if the city would do its clear duty by acquiring the Empire City Subway Company and taking possession of its own streets from the monopoly.

5. on the question of duplication, is also answered in our brief on pages 14 and 15.

6. See pages 14 and 15 of brief.

7 is a false statement, which can be easily proven by the facts hereinbefore referred to, on pages 38 and 39 of brief.

8. We think that we have proven conclusively that New York is not enjoying the best telephone service. (See pages 16 and 17 of brief.)

9 is fully answered on pages 16, 17 and 52 of the brief.

10 has been so fully answered by the public press that it hardly seems worth while restating. The fact is that the subscriber who takes 600 calls is compelled to pay eight cents a call for them. If he does not care to take this he can go outside and telephone at a public pay station for five cents. This is a penalty of \$18 a year for the privilege of having your name in the telephone book. The only reduction which large users get is that the extension instrument rental is reduced from \$12 to \$6 a year. Even at this reduced price of \$6 it is extortionate, as the instrument itself can be bought outright in the open market for \$6. They, therefore, make more than 100 per cent. on it.

11 can be answered by saying that their statements of earnings, which they have restricted, is another juggling of figures such as they make in reporting calls to subscribers. This does not include their enormously valuable real estate nor other holdings not directly used by the New York Telephone Company itself. As a matter of fact, the plant of the New York Telephone Company alone is the one that is furnishing the enormous fund for fighting the entire independent companies of the United States. The parent Bell Company in 75 per cent. of the entire country is losing money and losing ground, and New York and Boston are expected to pay for this fight.

12. That the New York Telephone Company is now willing to submit to publicity and regulation of rates is a death-bed repentance that came too late.

## SAN FRANCISCO CITY HALL—BEFORE AND AFTER THE FIRE



THE SAN FRANCISCO CITY HALL—BEFORE THE FIRE

THIS building, erected in 1905, at a cost of \$8,000,000, is thoroughly typical of the havoc wrought by the fire. The earthquake proper appears not to have had a very great effect upon it, its dilapidation having been caused chiefly by flame. A comparison of the following photographs of "Before" and "After" gives a thorough appre-

ciation of the damage done. The local authorities propose in the reerection of the building, if this should be decided upon, to almost entirely remodel it, both in its architectural and construction aspects. For the "Before" photograph, we are indebted to the courtesy of the Hearst Syndicate.



THE SAN FRANCISCO CITY HALL —AFTER THE FIRE

## A YOUNG MAYOR

### Side Lights on an Interesting Career—A Record of Patient and Persistent Work—Fight with Corporations

MR. HARRY B. ZIMMAN, who at the age of 27 years, became Mayor of Omaha upon the death of Frank E. Moores, March 23, has had a career very much out of the ordinary. When he assumed the office he was rounding out his second term as Councilman from the Third Ward, having held public office since he reached his majority, and was again a candidate for the Council, having been renominated by a large plurality when every other member of the outgoing Council who aspired to

another term failed. The nominations were made by direct primaries, the occasion being the first operation of the new Dodge primary law on municipal politics in Omaha. Zimman's victory was an emphatic endorsement of his six years' Councilmanic record. He was the leader in nearly every stand made for the people as opposed to the demands of special interest.

One of the striking features of his victory was the fact that he made his contest independently, having no affiliation with any of a number of factions, each supporting a Mayoralty candidate. The Fontenelle Club faction carried the nomination for every office but Zimman's and one other. He made few speeches, and practically all of his campaigning was done through a few newspaper advertisements.

Mayor Zimman's career is the more interesting because it is a story of development. He comes from Jewish parents and was born in the Polish section of Russia. He was brought to the United States when three years old and lived in Chicago four years. In the early eighties the family, which was poor, came to Omaha and settled in the Third Ward, where they have resided ever since. Zimman attended the public schools until he was 12, then went to work in a grocery store. He had advanced from delivery boy to a trusted clerk in a large establishment when he broke into politics. He was precocious and became interested in local politics when he was 16. He made stump speeches during the Presidential campaign of 1896, winning no little renown in his ward.

In 1900 Zimman undertook to capture a Councilmanic seat. The fall before he had cast his first vote. He was laughed at by the bosses of the Third. This ward contains the tenderloin district of the city, and most of its saloons and the most cosmopolitan part of its population. The chances are that Zimman would have been soundly defeated had not the principal op-



HON. HARRY B. ZIMMAN,  
MAYOR OF OMAHA.

posing candidate been shot and killed ten days before the primary. The dead candidate's backing was thrown to Zimman, being hard pressed and having no other recourse. Zimman won his ward delegation with 321 votes to spare. The Republican ticket carried the election easily. A contest on Zimman was threatened because it was doubted that he was 21 years old, but it was not brought to an issue.

Zimman had declined to use corporation money during his campaign, creating something of a local precedent thereby. He said he was not going to be a tool for the corporations or anyone else. Good-natured grins met the announcement. A few months after he took his seat the grins faded away and have not reappeared. The city had voted bonds to acquire the waterworks and the Council was elected upon a municipal ownership platform. Zimman prepared an ordinance, arranging for the appraisement and taking over of the water plant, and was surprised when it was laid on the shelf. He made a fight for it, but lost. It was a well-known fact that the public service corporations were paying much less than their fair proportion of taxes. The Real Estate Exchange tried to have the corporation assessments raised. The demand was met by a hostile Council, only Zimman and three other members being willing to grant a hearing. Zimman studied the question and took the side of the exchange. After litigation and a determined contest millions were added to the corporation assessments.

Zimman fixed hours for City Hall employees and instituted a number of reforms in city government. At the end of his first term the public service corporations were fighting him intensely, but his prestige was too strong to be disregarded, and he was renominated by the old convention system and re-elected by a heavy majority. His three years' experience had made him a fair debater and speaker, and a close student of municipal affairs. Before the corporations had time to complete a combine in the new Council, Zimman was elected President.

As presiding officer of the Council, Zimman continued along the lines he had adopted, recognizing various abuses in the local government, and determined to correct them. He and one other member who had been with him in many reform fights—Councilman Hoye—were the only members of the former Council returned. He considered this a vindication of his policy, and he resumed his anti-corporation fight with additional vigor. It was not long before he was leading the minority, and the majority opposed him. Notwithstanding, by sheer ability and generalship he often outpointed the majority and prevented legislation for special privileges.

Zimman precipitated the gas fight in 1905, which had a crisis in the use of the police at the doors of the Council chamber to compel the minority members to remain present while a gas-lighting contract for \$28 per lamp per year was being driven through. Subsequently the majority Councilmen were sentenced to jail for contempt of court for disobeying an injunction,

the sentence being set aside later by the Supreme Court on a technicality. The contract, passed under duress, was taken into court, where the points contended for by Zimman were affirmed, Judge Sutton ruling that under its franchise the gas company could not charge more than \$14 annually for street lamps. The contract was set aside and litigation in the Supreme Court is now pending. Zimman's fight, which he began several years ago, was for lower prices. A direct result of his effort was the reduction to consumers of 20 cents per 1,000 cubic feet. Through Zimman's efforts arc lamp prices had been cut from \$112.50 to \$75 a year and a royalty of 3 per cent. on the gross receipts gained for the city.

As President of the Council, Zimman became Mayor when the late Mayor Moores died. He served until May 21. Efforts had been made to induce him to be a candidate for Mayor, but he declined, saying he was satisfied to serve in the Council. He has no use for the ordinary methods of getting votes. When he makes an address he confines himself to definite and vital matters and is brief. He believes that handshaking and the personal solicitation of votes are time thrown away. Although courteous, he is often brusque with constituents, and usually censures them on the spot when they ask for something in the nature of a special concession.

## WOODEN PILES AND CONCRETE

**Reinforced Material to Be Used at San Francisco—A Substitute for Wood—Conditions Disclosed by Recent Earthquake**

THE two photographs shown herewith, which are all the more interesting because taken at San Francisco a few days before the earthquake, illustrate a source of weakness which it does not require an earthquake to demonstrate. Wood is at best a temporary material for most structures, but nowhere more so than where subject to the attacks of the *teredo navalis* and the *limnoria terebra*. With the increasing cost of wood and decreasing cost of concrete, the latter is being substituted for the former material in a rapidly increasing number of structures, because of its resistance to fires as much as because of its greater strength. The conditions illustrated below would seem to indicate that protection from "ship-worms" is equally as pressing a necessity; for coal tar and creosote are not sure preservatives (all the piles shown in the illustrations were said to have been treated with one or the other of these), and since iron rusts and is more expensive than concrete, the latter material would logically seem to be the proper one to use as a substitute for wood in piles.

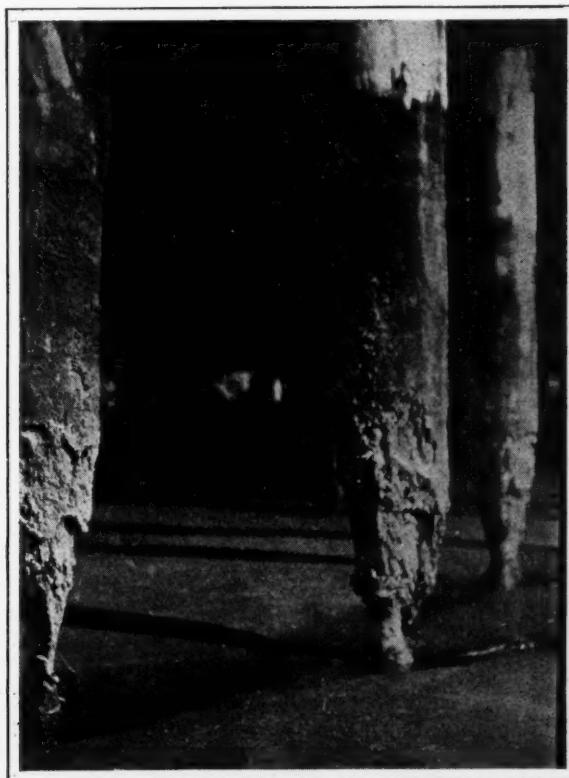
Mr. Frank B. Gilbreth, by whom these photographs were taken, firmly believes that reinforced concrete will be very largely used in the reconstruction of San Francisco, and many other contractors and engineers have expressed a like belief.



WOODEN PILES AT OAKLAND, CAL.

The pictures show some wooden piles taken at Oakland, Cal., a few days before the recent earthquake. They were taken near the tracks of the Narrow Gauge Railway, known as the Narrow Gauge Mole. This Mole is built about a mile out into the harbor, a feat made possible by the shallow water in the vicinity of the shore of Oakland Bay. At the end of this Mole is a ferry slip, from which ferries connect with the Union Station at San Francisco. This Mole came into prominence at the time of the earthquake disaster.

These piles, although coated with coal tar or a creosote compound, have been badly eaten by the *teredo* and *limnoria*. In the opinion of Mr. Stewart, assistant Chief Engineer of the Great Northern Railroad, a stick of timber rough sawed will last about eight months in the vicinity of Puget Sound, a peeled pile will last a year, and a pile with the bark on will last a year-and-a-half; a creosoted pile will last from 15 months upwards.



WOODEN PILES IN BAY, OAKLAND, CAL.

## AN APPLICATION OF THE "DEADLY PARALLEL"

### \*For Municipal Ownership

By FREDERIC C. HOWE, Ph.D., Washington, D. C.

*First.* That municipal ownership stimulates public spirit, promotes good citizenship, and arouses a sense of local patriotism growing out of the services which the city extends to the citizen.

*Second.* That public operation is alone consistent with the best interests of the community. It permits city administration to be coordinated, and the service of the tramways, electricity, gas, and water undertakings to be made to serve one another and the community.

*Third.* That public ownership has greatly cheapened the cost of service, whether in water, gas, electricity, or transportation. The same is true of telephones.

*Fourth.* That municipal ownership has proved a financial success; already in many cities it has out of its earnings paid off a part of its indebtedness, and in many instances contributed to the reduction of the local taxes.

*Fifth.* That municipal ownership has improved the condition of labor by increasing wages, shortening hours, and establishing cordial relations between the public and its servants.

*Sixth.* That, in addition to this, public operation is subject to public opinion; that every voter is a critic and can make his influence felt upon service and conditions; that this makes the industry responsive to the needs of the community in a way that is never true of private operation.

\*From Bulletin of the Bureau of Labor.

### \*Against Municipal Ownership

By EVERETT W. BURDETT, Boston, Mass.

*First.* The operation by British municipalities of public utilities of the kind under consideration has been successful, if at all, in the single particular of furnishing the service or supply at a fair price to a comparatively few persons. Aside from gas supply, it has not resulted in any considerable profit to the municipalities, the losses in electric lighting, traction, and telephone enterprises being frequent, while the profits when realized are generally not more than 2 or 3 per cent. on the investment—the net result to date being an average loss.

*Second.* It is by no means conceded, but, on the other hand, is strenuously denied, even in England, that municipal trading has, upon the whole, been successful, and British public sentiment is by no means settled upon that subject.

*Third.* The municipal supply of electricity for light, traction, and telephone service has been attended by certain serious results, which more than offset the success, if any, which has been obtained in the single respect above referred to, viz.:

(1) A most serious check upon the general development of the electrical industry in Great Britain, and, in consequence, upon the establishment of the manufacturing plants and facilities which would otherwise have grown up.

(2) An extremely restricted supply in the cases where the supply has been undertaken, resulting in the accommodation of the few, to wit, consumers, at the expense of the many, to wit, rate-paying non-consumers.

(3) The abnormal enlargement of the functions of local government, resulting in the discouragement of private enterprise, and the creation of a large and increasing body of office-holding voters.

(4) A most serious enlargement of municipal indebtedness, and the creation of a class of voters who can be relied upon to support extravagant expenditures.

*Fourth.* The unfavorable results realized in the development of the electric industry are primarily traceable to the character of the legislation and official regulations governing the matter, all of which, professedly and in reality, are framed for the encouragement of municipal, and the discouragement of private, enterprise; and also to the inertia and lack of business enterprise which are inseparable from municipal operation.

These laws and regulations, not having worked well in Great Britain, should not be imitated or approximated in America.

*Fifth.* If a different view from that above expressed is taken of the character of the results achieved, and it is deemed advisable, if practicable, to duplicate the financial and technical results of British municipal undertakings in America, it will be impossible to do so, owing to the totally different political conditions obtaining in the municipalities of the two countries, respectively. Not only is the municipal civil service in Great Britain totally different from that in America, and dependent for its character and tenure upon a wholly different system of laws and administration, but the public sentiment and education of the people of the two countries upon the subject is so opposed that the conditions in either country could not be reproduced, by legislation, or otherwise, in the other.

*Sixth.* In view of all the foregoing considerations, it is manifest that the continued encouragement of the exploitation of private business by private capital, rather than the entrusting of business or quasi-business enterprises to municipal officials, is the only sound course to be pursued in the United States.

\*From the Journal of Political Economy.

## LEGAL DIGEST—

### A Summary and Notes of RECENT DECISIONS

#### Assessment Confirmed

PROPERTY OWNERS *vs.* CITY OF SEATTLE.—The original assessment roll prepared by the city to be levied against the property along the route of the proposed boulevard, has been confirmed. Less than one-third of the property owners, according to value, contested the assessment.—*Decision by Justice Griffin, Superior Court, Seattle, Wash.*

#### Cannot Enjoin Public

SAUER *vs.* NEW YORK CITY.—The owner of property abutting on a street the fee of which is in the public, at a point which is depressed below the grade of other property through which the street runs, is held to have no right to enjoin the use of a viaduct erected by the municipality under legislative authority, to facilitate travel between the more elevated parts of the street, although it is fifty feet above the street level in front of his property and ingress to and egress from his property, together with the free and uninterrupted circulation of light and air, have been impaired, and the value of his property decreased.—*Circuit Court, New York City.*

#### Cannot Narrow Roadway

L. D. WALTER, *et al.* *vs.* H. B. F. MACFARLAND *et al.* COMMISSIONERS.—An appeal by complainants from a decree of the Supreme Court of the District of Columbia dismissing a bill in equity for an injunction is reversed. The defendants were about to narrow the roadway from 35 to 30 feet by adding 2½ feet to the sidewalk on each side. Held that the question is not one of expediency but of power. Control of streets does not include power to change their width at discretion, after they have been established, improved and gone into general use.—*Opinion by Mr. Chief Justice Shepard, Court of Appeals, Washington, D. C.*

#### Damages for Lowering Grade

SWOPE *vs.* CITY OF SEATTLE.—At trial the plaintiffs offered in evidence, mortality tables for the purpose of showing the expectancy of their respective lives, as a basis for the determination of the length of time during which the extra burden placed on them in use of their home would obtain, and the extra steps plaintiffs would be obliged to climb for ingress from the street. Without argument or citation of authority the court's ruling excluding the evidence is sustained, the supreme court contenting itself with observing that plaintiff's counsel had not mentioned any rule of law, violated or ignored by the ruling, and that it would seem to require no extended argument to demonstrate its propriety.—*Supreme Court, Washington.*

#### Distinction Between Whistles

POWELL *vs.* NEVADA R.R. COMPANY.—The law distinguishes the necessary nature of a locomotive whistle from that of a stationary engine whistle used to call employed men. The owner in the latter instance is held to a stricter responsibility for frightening animals on the public highway.—*Supreme Court, Nevada.*

#### Negligent Use of Steam Roller

A. BUCHANAN'S SONS *vs.* CRANFORD CO.—Under Highway Law, Laws 1890, as amended prohibiting the passage of any vehicle propelled by steam on a highway without someone being sent ahead to warn persons of its approach, where a steam roller was operated in a highway without such warning being given, and as plaintiff's horse was driven in view of the roller suddenly and unexpectedly, and a steam whistle was sounded by the engineer in charge, the horse bolted and ran away, the operator of the steam roller was guilty of negligence.—*Supreme Court, New York.*

#### Safety Gates No Nuisance

SEIBERT *vs.* MISSOURI P. R. COMPANY.—Safety gates at the intersection of a railroad and a highway are held not to be a nuisance, although placed inside the curb, where sufficient space is left for travel, so as to come within the rule that a municipal corporation cannot authorize a nuisance in the highway.—*District Court, Missouri.*

## MUNICIPAL JOURNAL AND ENGINEER

### DIRECTORY OF MUNICIPAL AND ALLIED SOCIETIES

#### June 12-15.

MUNICIPAL LEAGUE OF INDIANA, MARION, IND.—John F. Taggart, Secretary, Richmond, Ind.

#### June 13-15.

LEAGUE OF GEORGIA MUNICIPALITIES.—ANNUAL CONVENTION, AUGUSTA, GA.—Bridges Smith, Secretary, Macon, Ga.

#### June 13.

NEW ENGLAND WATER WORKS ASSOCIATION.—JUNE OUTING, NAVY YARD, CHARLESTOWN, MASS.—Willard Kent, Secretary, 715 Tremont Temple, Boston, Mass.

#### June 13-14.

STATE FIREMEN'S ASSOCIATION.—CONVENTION, TRAVERSE CITY, MICH.—A. W. Bartak, Secretary.

#### June 19-21.

HUDSON VALLEY FIREMEN'S ASSOCIATION.—CONVENTION AND CARNIVAL, RENSSELAER, N. Y.

#### June 20-23.

NATIONAL ASSOCIATION OF MASTER STEAM AND HOT WATER FITTERS.—ANNUAL CONVENTION, HOTEL ST. CHARLES, ATLANTIC CITY, N. J.—Henry B. Gomers, Secretary.

#### June 20-22.

STATE ASSOCIATION.—CONVENTION AND TOURNAMENT, COLUMBUS, WIS.—Fred H. Henry, Secretary, Jefferson.

#### June 21-23.

AMERICAN SOCIETY FOR TESTING MATERIALS.—ANNUAL MEETING, ATLANTIC CITY, N. J.—Edgar Marburg, Secretary, University of Pennsylvania, Philadelphia.

#### June 26-29.

AMERICAN SOCIETY OF CIVIL ENGINEERS.—ANNUAL CONVENTION, THOUSAND ISLANDS, NEW YORK.—Charles Warren Hunt, Secretary, 220 West Fifty-seventh Street, New York.

#### June 26-28.

NATIONAL INTERSTATE TELEPHONE ASSOCIATION.—Auditorium, Hotel, Chicago, Ill.

#### June 27-29.

SMOKE INSPECTORS OF THE UNITED STATES AND CANADA.—FIRST ANNUAL CONVENTION, DETROIT, MICH.—John Fairgrieve, Smoke Inspector, Detroit, Chairman of Committee.

#### June 29-July 13.

AMERICAN LIBRARY ASSOCIATION.—TWENTY-EIGHTH CONFERENCE, NARRAGANSETT PIER, R. I.—J. I. Wyer, Jr., Secretary, 10½ Beacon street, Boston, Mass.

#### June 29-July 4.

SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION.—ANNUAL CONVENTION, ITHACA, N. Y.—M. S. Ketchum, Secretary, Boulder, Col.

#### July 10-14.

AMERICAN WATER WORKS ASSOCIATION.—ANNUAL CONVENTION, BOSTON, MASS.—J. M. Diven, Secretary, 14 George Street, Charleston, S. C.

#### July 19-20.

AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS.—SEMI-ANNUAL MEETING, CHICAGO.—W. M. Mackay, Secretary, P. O. Box 1818, New York City.

#### August 15-17.

INTERNATIONAL ASSOCIATION OF MUNICIPAL ELECTRICIANS.—ANNUAL MEETING, NEW HAVEN, CONN.—Frank P. Foster, Secretary, Corning, N. Y.

#### September 26-28.

LEAGUE OF AMERICAN MUNICIPALITIES.—TENTH ANNUAL CONVENTION, CHICAGO.—John MacVicar, Secretary, Des Moines, Iowa.

## ADVANCE AND WEEKLY CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage, Water Supply and Public Lighting—Fire Equipment and Supplies—Buildings, Bridges and Street Railways—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

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## STREET IMPROVEMENTS

**Atlanta, Ga.**—The Finance Committee has under consideration the issue of \$1,000,000 bonds for street and school improvements and constructing a City Hall.

**Macon, Ga.**—An election will be held to vote on the question of issuing additional paving bonds.

**Waycross, Ga.**—An election will be held, July 10, to decide the question of issuing \$100,000 bonds for street, water, sewerage and school purposes.

**Adrian, Mich.**—The question of issuing \$3,000 paving bonds will be voted on.

**Detroit, Mich.**—It is recommended that the municipal asphalt plant be enlarged—J. J. Haarer, Commissioner.

**Detroit, Mich.**—McClellan, Brooklyn, Scotten avenues and Sixth, Stanton and Sherman streets will be improved by paving—J. J. Haarer, Commissioner.

**Bellaire, O.**—Property owners have petitioned for grading and paving on McCaully street.

**Youngstown, O.**—Bids will be readvertised for paving Broadway, Elm street, Fifth avenue and Park avenue.

**Mercer, Pa.**—An election will be held to decide the question of issuing paving bonds.

**Dallas, Tex.**—The contracts for paving Elm, Akard, Ray, Kendall and Poydras streets have been awarded.

**Suffolk, Va.**—An expenditure of \$115,000 will be made for paving streets—J. H. Macleary, Chairman Public Street Improvement Committee.

## PROPOSED WORK

**Washington, D. C.**—It is proposed to extend Summit place and Genesee place at an estimated cost of \$2,700.

**Anderson, Ind.**—Bids will shortly be received for constructing 50,000 square feet of cement sidewalks—R. P. Mannix, City Engineer.

**Booneville, Ind.**—Bids will be received for grading and paving Second, Locust and Sycamore streets.

**Crawfordsville, Ind.**—Bids will be received for improving Vanee street—H. B. Hullitt, City Clerk.

**Fort Wayne, Ind.**—Improvements will be made on Lakeside, Columbia avenue, St. Joe boulevard and Lake avenue.

**Indianapolis, Ind.**—The following improvements are proposed: Asphalt roadway in Park avenue; cement walks on Roosevelt avenue and Seventeenth street; brick roadway on Twenty-second, Scioto and alley east of New Jersey street—C. G. Davis, Charles L. Hortmann, Henry C. Smither, A. E. Uhl and L. F. Henry, Commissioners on Sewers, Streets and Alleys.

**Indianapolis, Ind.**—Twenty-second street will be paved with brick.

**Topeka, Kan.**—Several additional paving contracts will be let.

**Baltimore, Md.**—It is proposed by Commissioners on Opening Streets to acquire Callow avenue, now a private street.

**Salisbury, Md.**—The Council proposes to expend \$50,000 for street improvements.

**Detroit, Mich.**—Hancock avenue will be opened and extended—F. A. Aldenbrand, Secretary Board of Assessors.

**St. Peter, Minn.**—Eight miles of sidewalk will be reconstructed.

**Vicksburg, Miss.**—Bills will shortly be asked for street improvement.

**Trenton, N. J.**—Bids for repaving of Brunswick avenue have been rejected because of excessive price.

**Glens Falls, N. Y.**—Several streets will be paved.

**Herkimer, N. Y.**—An expenditure of \$12,000 will be made for street paving.

**Rochester, N. Y.**—East avenue will be paved by the Warner-Quinlan Company, Syracuse.

**Greensboro, N. C.**—An expenditure of \$40,000 will be made for street improvements—T. J. Murphy, Mayor.

**Canton, O.**—A resolution has passed the Council to appropriate \$5,000 for street cleaning apparatus.

**Columbus, O.**—Hamilton avenue will be paved with asphalt and Bolivar street will be paved with block or brick.

**Dayton, O.**—Resolutions have been passed to pave with sheet asphalt, brick or macadam, alley west of Main street, and for improvements on Broadway, and first alley west of Brown street—C. P. Floyd, City Clerk.

**Delaware, O.**—Block asphalt will be used in paving Franklin street.

**Dennison, O.**—Second street will be paved with brick—Chas. B. Jefferies, Clerk.

**Marietta, O.**—Bids will be advertised for paving Church street. Resolutions have been passed to pave Front street.

**Mt. Vernon, O.**—Vine street will be curbed and paved—J. H. Wootton, Clerk Board of Public Service.

**Port Clinton, O.**—East Market street will be curbed and paved, and streets surrounding the Park will also be improved.

**Woodsfield, O.**—High, Fourth, Market and Court streets will be graded, curbed and paved with brick—Geo. P. Dorr, Clerk.

**Wooster, O.**—It is proposed to pave College avenue at a cost of \$9,606.

**Wooster, O.**—Resolutions have been passed to pave and repair Skunk, Bowman, Bever, Buckeye and West North streets, West Henry street, Beall avenue, Grant street and Madison avenue.

**Youngstown, O.**—Ohio, Pennsylvania and Michigan avenues will be paved.

**Zanesville, O.**—Linden avenue will be paved—Neil Starkey, Clerk.

**Allegheny, Pa.**—The citizens have voted to issue \$40,000 street improvement bonds.

**Spartanburg, S. C.**—It is proposed to issue \$25,000 additional paving bonds.

**Dallas, Tex.**—It is proposed to pave Ervy street.

**Spokane, Wash.**—A number of street improvements will be made in the Minnehaha addition—Z. Stewart, County Auditor, H. C. Lynde, Deputy.

**Marlington, W. Va.**—An issue of \$15,000, 4 per cent. street improvement bonds has been authorized.

**Armory, Wis.**—The Council has voted to construct cement sidewalks.

## CONTRACTS TO BE AWARDED

**Sioux City, Iowa.**—Bids will be opened June 12, for improving Nebraska street by paving and curbing—W. J. Radcliff, Chairman Paving Committee.

**Ghent, Minn.**—Bids will be received, June 19, for constructing cement crossing.

**Canton, O.**—Bids will be received, June 15, for improving East Eighth street by grading, curbing, draining and guttering—C. A. Zellers, Clerk.

**Carrollton, O.**—Bids will be received, June 19, for \$3,200 Bridge street improvement bonds—Almer Selby, Clerk.

**Cincinnati, O.**—Bids will be received, June 22, for improving Woodfield avenue by curbing, flagging and macadamizing according to plans—M. J. Keefe, City Clerk.

**Dayton, O.**—Bids will be received, June 19, for improving Ebert street by grading, graveling, setting combined cement curb and gutter and laying cement walks—C. P. Floyd, City Clerk.

**Youngstown, O.**—The contract for paving Oakhill avenue has been awarded James McCarron at his bid of \$44,443.

**Mansfield, O.**—Bids will be received, June 16, for grading and paving Boughton avenue.

**Marion, O.**—Bids will be received, June 13, for paving portions of Columbus avenue with block macadam—Wm. Fries, Clerk.

**Steubenville, O.**—Bids will be received, July 2, for paving Market street with granite block and Lake Erie avenue with brick—P. W. Vance, Clerk, Board Public Service.

**Terrace Park, O.**—Bids will be received, June 30, for constructing cement or artificial stone sidewalks four feet wide on Lexington avenue and Floral avenue—W. E. Williamson, Clerk Village Council.

**Guthrie, Okla.**—Bids will be received, June 21, for paving six blocks on East Warner avenue with asphalt, bitulithic or brick paving—W. W. Miller, City Engineer.

**Clarion, Pa.**—Bids will be received, June 18, for improving Main street by paving with brick—A. W. Guethoff, Secretary Board.

**Lewiston, Pa.**—Bids will be received, June 21, for constructing 20,000 square yards of pavement, 6,000 feet of curbing, 1,250 feet of retaining wall and 7,000 yards of excavation—Wm. P. Moore, Borough Engineer.

**Salt Lake City, Utah.**—Bids will be received, June 15, for grading, curbing and paving portions of First South street, East Temple street, Second South street and State street—Louis C. Kelsey, City Engineer.

**Norfolk, Va.**—Bids will be received, June 22, for any one of the following pavements on Main street: Granite block on concrete foundation; creo-resinate on concrete foundation; sheet asphalt on concrete foundation; Warren's bitulithic concrete foundation; bluminous macadam foundation—W. T. Brooks, City Engineer.

**Scottsville, Va.**—Bids will be received, June 15, for laying 1,600 square yards of sidewalks and 1,300 lineal feet of cement curbs—Jackson Beale, Chairman Street Committee.

**Williamsburg, Va.**—Bids will be received, June 18, for about 5,000 square yards of granolithic sidewalks—H. S. Bird, Chairman Street Committee.

**Ashland, Wis.**—Bids will be received, June 26, for grading, also for improving Ellis avenue.

**Grantsburg, Wis.**—Bids will be received, June 15, for constructing cement sidewalks at the Courthouse—Committee on Public Buildings.

**Janesville, Wis.**—Bids will be received, June 20, for improving several streets.

**Dauphin, Man., Canada.**—Bids will be received, June 15, for constructing 9,000 square yards of granolithic sidewalks—J. W. Johnson, City Secretary.

## CONTRACTS AWARDED

**Crawfordsville, Ind.**—The contract for paving Wabash avenue has been awarded Waugh and Buchanan at \$21,849.

**Kokomo, Ind.**—The contract for paving Lafontaine street has been awarded Pat Donnally at \$9,110; paving Kentucky street, J. H. Watson, \$5,784.

**Jersey City, N. J.**—The contract for paving Courthouse place and Olean avenue has been awarded to Uralde Asphalt Company.

**New York, N. Y.**—Seven paving contracts were awarded the Bevier Improved Wood Pavement Company.

**Rochester, N. Y.**—Contracts for cement walks have been let as follows: West avenue, F. V. Brotsch & Holder, \$1,280; Conkey avenue, Ripton and Murphy, \$1,261.25; Hagne street, Henry Schoenfeldt, \$290.50; Allen street, F. V. Brotsch and Holder, \$56.65.

**Delaware, O.**—A large paving contract has been awarded the New Castle Block Asphalt Company—Harry B. Chase, Manager.

**Gibsonburg, O.**—The contract for paving North Main street has been awarded the Hanlon Construction Company, Cleveland, O., at a cost of \$10,000.

**Springfield, O.**—Contracts have been awarded as follows: Paving Wise avenue, curbing, flagging and grading Stewart avenue, E. J. Straub, Mansfield, O.; cement sidewalks on Dlamon street, W. F. McHugh; paving Penn avenue, W. S. Pace.

**Youngstown, O.**—The contract for paving Oakhill avenue has been awarded James McCarron at his bid of \$44,443.

## ROAD MAKING

**Louisville, Ky.**—A number of roads will be improved at a cost of about \$85,000.—John Dyler, County Road Supervisor.

**Madison, Va.**—An election will be held to vote on the question of issuing \$80,000 bonds for macadamizing roads.

**Suffolk, Va.**—The matter of issuing \$250,000 road construction bonds is under consideration.

## SEWERAGE

**Cairo, Ill.**—Estimates are being prepared for a sewer on Commercial avenue at a cost of \$84,000.

**Lawton, Ind.**—Plans have been prepared for a sewer system, at a cost of \$60,000.—D. J. Terhune, City Engineer.

**Adrian, Mich.**—The city will vote on the proposition to issue \$75,000 sewer bonds.

**Houghton, Mich.**—Preliminary plans have been made by Engineer J. L. Calusen for a \$1,500 sewer in West Houghton.

**Canton, O.**—Sewers will probably be constructed in Woodland avenue, Summit street, East Ninth street and Chance avenue.

**Chardon, O.**—Plans have been prepared for a 15-inch sewer in Court street.

**Marietta, O.**—Resolutions have been passed to improve Hart, Fifth, East Green and Quarry streets and install sewers, at a cost of about \$25,000.—L. M. Harness, Clerk.

**Painesville, O.**—Plans are being prepared for constructing a sewer on Liberty street. Bids will shortly be asked.

**Port Clinton, O.**—A sewer will probably be constructed in District 9.

**Grove City, Pa.**—An election will be held to decide the question of issuing sewer bonds.

**Orangeburg, S. C.**—The city has voted to issue \$50,000 sewer bonds.

## PROPOSED WORK

**Washington, D. C.**—The following improvements have been ordered: Sewers on M street, water mains on Half street, Bridge 36, K street repaired, and several streets resurfaced.

**Live Oak, Fla.**—A sewer system will be installed.

**Aledo, Iowa.**—A sewer system will be installed.

**Newport, Ky.**—Several streets will be improved.

**Trenton, N. J.**—A sewer will be constructed in Sanford street.

**Elyria, O.**—Sewer system will be constructed in District 2.—F. R. Fauver, City Clerk.

**Elyria, O.**—Sewers are to be constructed on Olive and Ohio streets, at an estimated cost of \$60,000.—Rose Moriarty, Clerk.

**Findlay, O.**—A sewer will be constructed in Hurd avenue at a cost of \$1,400.—J. C. Edie, City Clerk.

**Massillon, O.**—Sanitary sewers will be constructed in Albright street, Woodland avenue and Green street.—E. J. Stewart, City Clerk.

**Mt. Vernon, O.**—A sewer disposal plant will be constructed.—Dr. W. H. Blair, Health Officer.

**Youngstown, O.**—Sewers will be constructed in numerous streets.

## CONTRACTS TO BE AWARDED

**Corte Madera, Cal.**—Bids will be received, June 15, for constructing a sewer system in Sanitary District 2.—E. C. Chapman, President, Sanitary Board; Benjamin Sconier, Secretary; George M. Dodge, Civil Engineer.

**Dixon, Ill.**—Bids will be received, June 16, for constructing sewers in several streets.—John Dornblaster, Attorney.

**Niles, Ill.**—Bids will be received, June 11, for constructing a drainage ditch.—John H. Ruesch, Clerk, Norwood Park, Ill.

**Knoxville, Iowa.**—Bids will be received, June 16, for constructing a sewer on Lafayette avenue, Morgan and Lincoln streets.

**Sioux City, Iowa.**—Bids will be opened, June 12, for constructing a 6-inch cement sewer in Main street.—T. W. Bayne, Chairman, Sewer Committee.

**Jackson, Mich.**—Bids will be received, June 18, for constructing sewers.—J. F. Harrison, Superintendent, Water Works.

**Green Island, N. Y.**—Bids will be received, June 20, for constructing eighty-seven sewer and water laterals on George street and Hudson avenue.—W. H. Jarvis, Secretary, Public Improvement Commission.

**Utica, N. Y.**—Bids will be received, June 15, for constructing vitrified pipe house drainage sewers in several streets.—J. A. Cantrell, City Clerk.

**Waterford, N. Y.**—Bids will be received, June 15, for constructing a sanitary sewer system and a storm water sewer system.—Luke Kavanaugh, Chairman, Sewer Commissioners.

**Chillicothe, O.**—Bids were opened, June 11, for constructing a reinforced concrete storm sewer in Honey creek.

**Cincinnati, O.**—Bids will be received, June 23, for constructing sewers in Section avenue, Ross, Warren, Hunter, Ralston, Globe, Silver, Lawn and Feldman avenues.—J. A. Stewart, Engineer; Geo. H. Stasey, Clerk.

**Columbus, O.**—Bids will be received, June 19, for constructing sewers in several streets.—E. F. McGuire, Secretary, Board Public Service.

**Painesville, O.**—Bids were received, June 12, for constructing a storm water sewer in Erie street and Mentor avenue. South street and Liberty street will be sewerized.—O. W. Kile, Secretary, Board Public Service.

**Ogden, Utah.**—Bids will be received, June 23, for constructing sewers.—A. F. Parker, City Engineer.

**Roanoke, Va.**—Bids will be received, June 19, for cleaning Campbell avenue drain east of Market square.—W. B. Bates, City Engineer.

## CONTRACTS AWARDED

**Gadsden, Ala.**—The contract for constructing nine miles of sewers has been awarded the West Construction Company, of Chattanooga, Tenn., at \$27,701.

**Kokomo, Ind.**—The contract for the sewer on Buckeye street, Dixon and Hunt, \$3,965; Fitz sewer, Dixon and Hunt, \$1,604.

**Noblesville, Ind.**—The contract for constructing two sewers has been awarded Frank Mackey and F. M. Benner, Marion, at \$6,710.

**Beverly, Mass.**—The contract for sewers on Swan, Mason, Lyman, Rantoul, School, Front, Davis and Cabritt streets has been awarded to A. C. Tomasello.

**St. Louis, Mo.**—The contract for the sewerage work on the Police Headquarters building has been awarded the St. Louis Construction Company, at \$16,683.

**Eldorado Springs, Nev.**—The contract for constructing sewers has been awarded Phil Morgan and Wm. Schmedler, Nevada, Mo.

**Trenton, N. J.**—The contract for Sewer 334 was awarded John Tot; Sewer 338 was awarded Schuman Pace.

**New York, N. Y.**—Three sewer contracts were awarded the Long Island Construction Company.

**Rochester, N. Y.**—The contract for the Frankfort street sewer has been awarded John Calman, at \$718,40.

**Dickinson, N. D.**—The contract for constructing a water system and sewers has been awarded James Kennedy, Fargo, at \$40,473.

**Leed, N. D.**—The contract for the construction of a trunk sewer has been awarded Gilbert H. Haggert, Fargo, N. D., at \$10,031.

**Lancaster, O.**—The contract for the Fifth avenue sewer has been awarded C. T. McCracken and Company, of Columbus, at \$8,800.

**Mansfield, O.**—Contracts have been awarded as follows: Chester avenue sewer and Lafayette avenue sewer, Wm. S. Pace, Newcomerstown; Prospect avenue sewer, Wm. E. McHugh, Springfield, O.

**Ravenna, O.**—The contract for installing a sewer system has been awarded the Hanlon Construction Company, Cleveland, at \$37,685.

**Steubenville, O.**—The contract for constructing the Eighth street sewer has been awarded W. A. Aikman; the Ninth street sewer contract has been awarded Robt. E. McConnell.

**Toledo, O.**—The contract for constructing sewer No. 958 has been awarded John McMahon, at a cost of \$4,500; the Oakdale avenue sewer contract was awarded Patrick Tanzy, at \$14,762.

## WATER SUPPLY

**Selma, Ala.**—An issue of water bonds has been authorized.

**San Diego, Cal.**—The Water and Fire Committee recommends the expansion of the water system.

**Elgin, Ill.**—A water meter system will probably be installed.

**Columbus, Ind.**—All bids have been rejected for the extension of the water filtration system, and new ones will be asked.—P. H. McCormack, Mayor.

**Claremore, I. T.**—An election will be held to decide the question of issuing water and light bonds.

**London, Ky.**—A waterworks system is being considered; estimated cost, \$15,000.—C. R. Baugh, Chairman, Board Waterworks.

**Hammond, La.**—An election will be held, June 26, to decide the question of issuing \$40,000 bonds for constructing a waterworks system.

**Fountain City, Minn.**—The proposition to issue waterworks bonds will be submitted to a vote of the people.

**Big Timber, Mont.**—The question of issuing \$40,000 waterworks bonds will be submitted to a vote of the people.

**Haverhill, N. H.**—Surveys are being made for a gravity water system to furnish the towns of Pike and Woodville with water supply.—Arthur W. Dudley, Manchester, Engineer.

**Hamilton, O.**—Council will be asked to provide a \$100,000 bond issue for waterworks improvement. A 6,000,000 gallon pump and a steam plant will be required.

**Fredonia, Pa.**—An election will be held to decide the question of issuing bonds for a municipal water system.

**Pittsburg, Pa.**—The issue of \$50,000 water extension bonds has been approved.

**Hoquiam, Wash.**—Plans are under way to construct a 1,000,000 gallon reservoir, at an estimated cost of \$20,000.

## PROPOSED WORK

**San Francisco, Cal.**—Water mains will be laid on Sixth street from Channel street to connect with the mains on Seventh street; ten hydrants will be installed.

**Washington, D. C.**—Water mains have been ordered laid on Tennessee avenue and D street.—Henry B. F. Macfarland, Commissioner.

**Albany, Ga.**—Bids will be received for drilling an artesian well to the depth of 900 feet.—Wm. Lockett, Superintendent, Waterworks.

**Boise, Ida.**—A plant will be installed for the purpose of bringing water from the Perrault ditch, at a cost of \$100,000.—Joseph Perrault and others, Promoters.

**Sandpoint, Ida.**—The water mains will be extended.

**Joliet, Ill.**—A water power plant will be constructed, at a cost of \$2,000,000.—R. R. McCormick, President, Drainage Board.

**Georgetown, Ind.**—A water supply system will be constructed.

**Atoka, I. T.**—The city has voted to issue \$30,000 waterworks bonds.—Burns and McDonald, Kansas City, Mo., Engineers.

**Kentwood, La.**—About \$35,000 will be expended on waterworks.—J. P. Chambers, Mayor.

**Sheilburne Falls, Mass.**—An appropriation of \$75,000 has been voted for a waterworks system.

**Hancock, Mich.**—The water system will be extended and improved.—Board Public Works.

**Sheridan, Mich.**—The Council has decided to issue \$13,000 bonds for water supply.

**Sauk Rapids, Minn.**—It is proposed to construct a waterworks plant.

**Biloxi, Miss.**—The water mains will be extended.

**Mayville, Neb.**—The citizens have voted to issue \$7,000 for waterworks system.

**Bellevue, O.**—Plans have been prepared for the proposed water system.

**Cincinnati, O.**—The citizens have voted to issue \$250,000 waterworks bonds.

**Columbus, O.**—The plans for constructing a water pumping station have been approved. Bids will be advertised for.

**Mt. Vernon, O.**—It is proposed to issue \$30,000 bonds for extension of the waterworks plant.

**Painesville, O.**—A bond issue of \$85,000 will be made for a filtration plant.

**St. Bernard, O.**—An issue of \$5,000 bonds will be made for constructing a waterworks system.

**Carman, Man., Can.**—An expenditure of \$58,000 on waterworks, sewerage and electric-light plant has been authorized.

## CONTRACTS TO BE AWARDED

**Montezuma, Iowa.**—Bids will be opened, June 12, for extending the water supply.—R. A. Murland, Town Clerk.

**Spring Lake, Mich.**—Bids will be received, June 16, for constructing a waterworks system, at a cost of \$15,000.—A. L. Holmes, Grand Rapids, Engineer.

**Hibbing, Minn.**—Bids will be opened, June 12, for pumping machinery for the waterworks.—Miles Gandsey, Village Recorder.

**Wanetta, Okla.**—Bids will be received, July 5, for constructing a waterworks system.—James T. Hutchinson, Clerk.

**Norfolk, Va.**—Bids will be received, June 14, for installing a water system from the intersection of Twelfth street and Williams Avenue to the Jamestown Exposition grounds.—City Water Department.

## CONTRACTS AWARDED

**San Francisco, Cal.**—The contract for repairing hydrants was awarded the Fulton Iron Works.

**Muskegon Heights, Mich.**—Contracts for constructing a waterworks system have been awarded the J. J. Howden Plumbing Company and the Muskegon Boiler Works, at \$36,410.

**Elk City, Okla.**—The contract for constructing a waterworks system has been awarded to McQuatters Plumbing Company, Dallas, Tex., at \$24,000.

**Toledo, O.**—The water filtration plant will be completed by Bentley and Sons.

**Bristol, Pa.**—The contract for the water filtration plant has been awarded the Jewel Filtering Company, New York, N. Y., at \$25,000.

## PUBLIC LIGHTING

**Little Rock, Ark.**—An electric-light plant will probably be installed.

**Green Mountain Falls, Col.**—Arrangements are being made for installing an electric-light plant.—Theophilis Harrison and F. E. Dow, Promoters.

**Wilmington, Del.**—The Street and Sewer Directors will buy lamps and personally supervise the street lighting.

**Shelley, Ida.**—The Cedar Point Light and Power Company has been incorporated with a capital of \$25,000 and will furnish light and power.

**Decker, Ind.**—A plan is under way to construct a dam in White river to furnish power for an electric plant which will serve for street lighting and other uses, in Vincennes, Mount Carmel, Princeton, Evansville and other towns. The plant will cost \$500,000.

**Morgan City, Iowa.**—The Dalton Light and Ice Plant has been destroyed by fire, at a loss of \$40,000.

**Marquette, Kan.**—The city has voted to issue \$12,000 in bonds for constructing a light and water plant.

**Monticello, Ky.**—The Monticello Electric Light and Power Company has been chartered with a capital of \$6,000.

**Boston, Mass.**—A municipal lighting plant is under consideration.

**Rush City, Minn.**—An election will be held, June 12, to decide the question of issuing \$12,000 municipal light bonds.

**Red Cloud, Neb.**—No contracts have been let for constructing an electric-light plant.—John Martz, Seward, Neb., Engineer.

**Watertown, N. Y.**—The Watertown Light and Power Company has been incorporated for the purpose of supplying gas to Waterloo, Great Bend, Feets Mills, Black River and Glen Park, and to furnish electric-light power to various towns.

**Mt. Vernon, O.**—It is recommended that a ten-year contract for street lighting be let.—President Grant, Board Public Service.

**Piqua, O.**—An electric plant will probably be installed at a cost of \$18,000.

**Springfield, O.**—A municipal heat, light and power plant is under consideration.—E. T. Ridonour, Councilman.

**Toledo, O.**—The East Side Chamber of Commerce is in favor of establishing a lighting system.

**Memphis, Tenn.**—An expenditure of \$150,000 will be made on the plant of the Memphis Consolidated Gas and Electric Company.—R. A. Speed, General Manager.

**Lometa, Tex.**—The Lometa Light and Water Company has been incorporated with a capital of \$2,000.

**McKinney, Tex.**—Plans and estimates have been prepared for improving the electric-light plant.—T. W. Perkins, Mayor.

**Lynchburg, Va.**—A municipal lighting plant is under consideration.—H. L. Shaner, City Engineer.

**Richmond, Va.**—A municipal electric-light plant is under consideration.

**Milwaukee, Wis.**—The Finance Committee recommends the issue of \$150,000 bonds for a municipal lighting plant.

**Milwaukee, Wis.**—Jones Island has asked for a municipal lighting plant.

**Nashotah, Wis.**—An election will be held to decide the question of installing an electric-light plant.

#### PROPOSED WORK

**Gadsden, Ala.**—A lighting and power plant will be built by the Gadsden Railway, Light and Power Company, at a cost of \$500,000.

**Mobile, Ala.**—The Mobile Light and Railway Company will make improvements, at a cost of about \$200,000.—J. Howard Wilson.

**Washington, D. C.**—An appropriation of \$100,000 has been approved for a light and fog signal station on the Rock of Ages, Lake Superior.

**Lumpkin, Ga.**—An ordinance has been passed to issue bonds for an electric-light plant.

**Richmond, Ind.**—Bids will shortly be received for improving the municipal lighting plant.

**Pocomoke City, Md.**—The Stevenson Electric Light Company will improve its plant.

**Grand Rapids, Mich.**—The Thornapple Gas and Electric Company will make improvements costing \$200,000.

**Lansing, Mich.**—An electric-light and power plant will be erected by the Northern Light and Power Company.

**Rush City, Minn.**—It is proposed to construct a municipal electric-light plant, at a cost of \$12,200.

**Festus, Mo.**—An issue of \$9,000, 5 per cent., electric-light bonds will be made.

**Laclede, Mo.**—An electric-light plant will be built, at a cost of \$60,000.

**Lebanon, N. H.**—The electric-light plant will be improved and remodeled.

**Ovid, N. Y.**—A power plant will be built on the Taughannock Creek to furnish light to Sheldrake and Interlaken.

**Georgetown, O.**—It is proposed to construct an electric-light plant.—T. W. Beaver, President, Board Public Affairs.

**Youngstown, O.**—The electric-light plant will be improved, at a cost of \$12,000.

**Allentown, Pa.**—An electric-light plant will be installed, at a cost of \$140,000.

**Chattanooga, Tenn.**—Plans are under way to expend \$1,000,000 in improvements in the way of machinery, etc., for the electric-light plant.

**Majorsville, W. Va.**—The Virginia Oil and Gas Company is preparing to extend its gas main to Video, Green county, where it has a station.

#### CONTRACTS AWARDED

**Roswell, N. M.**—The contract for a municipal gas plant has been awarded Beal and McGilray, Los Angeles, Cal.

**Pine Beach, Va.**—An electric-light and ice manufacturing plant will be installed by the W. E. Russell Company, at a cost of \$50,000.

#### FIRE EQUIPMENT AND SUPPLIES

**San Diego, Cal.**—The Committee on Fire and Water recommends the purchase of a steam fire engine.

**San Francisco, Cal.**—Plans are under way to construct a fire-engine house on South street.

**Washington, D. C.**—An engine house at Hillbrook is recommended by Fire Chief William T. Belt, at a cost of \$24,000.

**Sedan, Minn.**—The Fire Department has been reorganized.—Henry Hass, Fire Chief.

**Kansas City, Mo.**—It is recommended that \$300,000 bonds be issued for apparatus and seven engine houses.—Edward Trickett, Fire Chief.

**Trenton, N. J.**—An ordinance is before Council for improved fire protection.

**Far Rockaway, N. Y.**—It is recommended that a fire company be organized.

**Salamanca, N. Y.**—A hose company has been organized, to be known as Wildwood Hose Company No. 4.—W. K. Harrison, President.

**Newark, O.**—An issue of \$7,500 bonds will be made for a fire house and equipment.

**Oklahoma City, Okla.**—Plans have been adopted for a \$10,000 fire station.

**Memphis, Tenn.**—Four steam fire engines have been purchased from the Nott Fire Engine Company, Minneapolis, Minn.

**St. Albans, Vt.**—It is recommended that 1,000 feet of hose, a ladder truck, numerous ladders and a life-net be purchased.

**South Boston, Va.**—Plans are under way to secure improved fire protection.

**La Crosse, Wis.**—It is suggested that the Market square be used for a site for the proposed fire station.

#### PROPOSED WORK

**Los Angeles, Cal.**—An issue of \$200,000 bonds for improved fire protection will be made.

**Redding, Cal.**—A fire company has been organized; an engine and other equipment will be purchased.—R. L. Carter, Chief.

**San Jose, Cal.**—Two fire engines will be purchased.

**Denver, Col.**—Contracts have been let for erecting two fire houses.

**Kimballton, Iowa.**—An engine house will be built.

**Springfield, Mass.**—It is proposed to secure additional men for the Fire Department, and two fire engines, besides a motor wagon for a flying squadron, to cost about \$25,000.

**East Orange, N. J.**—About \$4,000 will be expended for a fire truck.

**Montclair, N. J.**—An engine house will be erected.

**Poughkeepsie, N. Y.**—A ladder truck and 1,000 feet of hose will be purchased.

**Akron, O.**—The Fire Department will purchase 1,000 feet of hose.

**Juarez, Mexico.**—A Fire Department will be established.

**Newmanstown, Pa.**—A fire company has been organized; a chemical engine and other apparatus will be purchased.—Dr. J. H. Horn, President.

**Wagner, S. D.**—A fire company is being organized, and fire apparatus will be purchased.

#### CONTRACTS TO BE AWARDED

**Buffalo, N. Y.**—Bids will be received, June 15, for the following fire apparatus, f. o. b. Buffalo: One first and second size steam fire engine, and first size aerial turntable, extension ladder truck and a telescope water tower.—Simon Selbert, Chairman, Board Fire Commissioners.

**New York, N. Y.**—Bids will be received, June 13, for furnishing materials for installing a salt water fire service at the St. George ferry terminal.—J. A. Bensel, Commissioner on Docks.

**New York, N. Y.**—Bids were opened, June 12, for erecting a building for hook and ladder company at Twenty-third street and Tenth avenue.—John H. O'Brien, Chairman, Fire Committee.

#### CONTRACTS AWARDED

**Swanville, Minn.**—The W. S. Nott Company, Minneapolis, was awarded the contract for 500 feet of hose.

**Cleveland, O.**—The contract for the addition to the engine house at Walnut and Chestnut streets has been awarded Butian and Isorey, at \$30,000.

#### MUNICIPAL BUILDINGS

**Montgomery, Ala.**—An issue of school bonds will probably be made.

**San Francisco, Cal.**—The House Committee on Public Buildings and Grounds has inserted an item of \$375,000 for rebuilding the Sub-Treasury. Additional ground will be purchased, at a cost of \$75,000.

**Carnesville, Ga.**—An election will be held to decide the question of issuing \$50,000, 4 per cent., Courthouse bonds.

**Carrollton, Ga.**—The city will vote on the question of issuing \$45,000 bonds for building a City Hall and macadamizing streets.

**Columbus, Ga.**—An election will be held to vote on the question of issuing \$10,000 school bonds.

**Cordele, Ga.**—An election will be held, August 22, to decide the question of issuing \$80,000, 4 per cent. courthouse and jail bonds.

**Marietta, Ga.**—An election will be held, June 16, to decide the question of issuing \$16,000 school bonds.—W. J. Black, Clerk.

**Eureka, Ill.**—The question of issuing \$20,000 school bonds will be submitted to a vote of the people.

**Littleton, Ill.**—The proposition to issue school bonds will be voted on by the people.

**Ardmore, I. T.**—The issue of \$130,000 school, water and sewerage bonds has been approved by Secretary of the Interior, E. A. Hitchcock.

**Bloomington, Ind.**—Plans are being prepared by Wing and Mahurin, of Fort Wayne, for a courthouse, to cost \$115,000.

**Haskell, I. T.**—The city will vote on the question of issuing \$10,000 bonds for erecting a school building.

**Mill Creek, I. T.**—The citizens have voted to issue \$10,000 school bonds.

**Leavenworth, Kan.**—An appropriation of \$24,000 has been asked for improvements at the Federal prison.

**Lansing, Mich.**—The Council is arranging to refund \$125,000 City Hall bonds.

**Donnelly, Minn.**—Plans are being prepared by Fremont D. Orff for a schoolhouse, at a cost of \$8,000.

**Lyons, Neb.**—An issue of \$20,000 school bonds has been authorized.

**Clayton, N. M.**—An election will be held, June 12, to decide the question of issuing \$12,000 school bonds.

**Camden, N. J.**—A bond issue of \$140,000 has been recommended for erecting three schoolhouses. An appropriation of \$226,541.50 has been made for yearly expenses.

**Addison, N. Y.**—An issue of \$10,000 has been voted for erecting a city building and theater.

**Rochester, N. Y.**—Governor Higgins has signed the bill authorizing the issue of \$300,000 school bonds.—President Forbes, Board of Education.

**Akron, O.**—An issue of \$50,000 high school bonds will be made.

**Columbus, O.**—An appropriation of \$50,000 has been made for erecting a home for crippled and deformed children.

**Lakewood, O.**—The matter of issuing \$100,000 school bonds is under consideration.

**Dallas, Tex.**—Plans have been completed for a high school building.

**Dublin, Tex.**—The question of issuing \$4,000 school bonds will be voted on.

**Malone, Tex.**—An election will be held to decide the question of issuing school bonds.

**Palestine, Tex.**—The Attorney-General has approved the issue of \$20,000 school bonds.

**Portsmouth, Va.**—The issue of \$42,000, 4 per cent., 30-year, school bonds has been approved.

**Colville, Wash.**—An election will be held to decide the question of issuing school bonds.

**Milwaukee, Wis.**—The Finance Committee recommends the issue of \$360,000 school bonds.

**Milwaukee, Wis.**—The Finance Committee recommends the issue of \$50,000 bonds for South Side Natatorium.

#### PROPOSED WORK

**Jonesboro, Ark.**—A Courthouse will be erected, at a cost of \$28,000.

**Lumpkin, Ga.**—An ordinance has been passed to issue bonds for erecting a schoolhouse.

**Lincoln, Ill.**—An issue of \$2,500 school bonds has been voted.

**Glasgow, Ky.**—The citizens have voted to issue \$30,000 school bonds.

**Maysville, Ky.**—It is proposed to issue \$50,000 school bonds.

**Morse, La.**—A high school building will be erected, at a cost of \$20,000.—Alcee Henny, Mayor.

**St. Joseph, La.**—The city proposes to issue \$50,000 school bonds.

**Taopi, Minn.**—A Town Hall will be erected.

**Meridian, Miss.**—An issue of \$35,000 school bonds will be made.

**Prentiss, Miss.**—A Courthouse and jail will be constructed, at a cost of \$50,000.

**Wellston, Miss.**—A bond issue of \$18,000 will be made for a school building.

**Norris, Mont.**—A Town Hall will be erected.

**Auburn, N. Y.**—A school building will be erected, at a probable cost of \$150,000.

**Cincinnati, O.**—Competitive plans will be received for the high school building, to be erected at a cost of \$500,000.—J. M. Withrow, M. D., Chairman, Building Committee.

**Beaver, Okla.**—A Courthouse will be erected.

**Baker City, Ore.**—The proposition to issue \$20,000 school bonds carried.

**Cologne, Pa.**—A school building will be erected.

**Reading, Pa.**—A heating plant will be installed in the county prison.—Berks County Commissioners.

**Memphis, Tenn.**—Bids will shortly be asked for constructing a Courthouse, to cost about \$1,000,000.—James Gambel Rogers, Chicago, Ill., Architect.

**Huntsville, Tex.**—The citizens have voted to issue \$15,000 bonds for rebuilding a schoolhouse.

**Royce City, Tex.**—An issue of \$3,000 school bonds has been authorized.

**Tyoga, Tex.**—An issue of \$12,000 school bonds will be made.

**Emporia, Va.**—Bids will be received for \$5,000, 5 per cent., 30-year building bonds.

**Pullman, Wash.**—Bonds have been voted for erecting two schoolhouses.

**Waterville, Wash.**—A Courthouse will be constructed.

#### CONTRACTS TO BE AWARDED

**Little Rock, Ark.**—Bids were opened, June 12, for constructing a Reform School.—Avery E. Moore, Chairman, Building Committee.

**Washington, D. C.**—Bids will be received, June 18, for constructing second, third and attic floors and roof of building for National Museum.—Bernard R. Green, Superintendent Construction, Library Congress.

**Brunswick, Ga.**—Bids will be received, June 26, for constructing a Courthouse.—J. J. Lott, Chairman, County Commissioners.

**Dixon, Ill.**—Bids will be received, June 15, for furnishing materials and labor for a City Hall, according to plans.—Henry U. Bardwell, City Clerk.

**Garrett, Ind.**—Bids will be received, June 20, for plumbing, heating and wiring of high school building, and remodeling the old high school building.—C. U. Bowers, Secretary, Board School Trustees.

**Greenfield, Iowa.**—Bids will be received, June 14, for erecting a school building.—J. C. Mason, Secretary Board of Education.

**Mason City, Iowa.**—Bids will be received, June 21, for an addition to Grant school.—W. P. Fitch, Secretary Board of Education.

**What Cheer, Iowa.**—Bids will be received, June 15, for erecting a schoolhouse.—C. W. Arganbright, Secretary Board of Education.

**Detroit, Mich.**—Bids will be opened, June 12, for various improvements on school buildings.—William J. Lee, Secretary Board of Education.

**Detroit, Mich.**—Bids will be received, June 28, for constructing three one-story buildings.—Public Lighting Commission.

**Owatonna, Minn.**—Bids will be received, June 15, for erecting a City Hall, to cost \$16,000.—W. F. Keefe, Architect.

**Joplin, Mo.**—Bids will be received, June 15, for \$45,000 school bonds.—J. T. Livingston, Secretary Board of Education.

**Butte, Mont.**—Bids will be received, June 28, for the purchase of \$100,000 school bonds.

**Oswego, N. Y.**—Bids will be received, June 19, for constructing an armory building.—F. A. McNeely, Secretary State Board of Armory Commissioners, Albany, N. Y.

**Poughkeepsie, N. Y.**—Bids will be received, June 20, for constructing a building.—T. E. McGarr, Secretary State Commission in Lunacy, Hudson River State Hospital.

**Edgely, N. D.**—Bids will be received, June 16, for erecting a frame school building.—O. D. Dunsford, Clerk.

**Oriska, N. D.**—Bids will be received, June 18, for erecting a school.—Homer Pike, Clerk.

**Richardton, N. D.**—Bids will be received, June 16, for erecting a school building.—Benj. Webb, District Clerk.

**Valva, N. D.**—Bids will be received, June 21, for erecting three schoolhouses.—Ira Thompson, District Clerk.

**Wimbledon, N. D.**—Bids will be received, June 18, for erecting a schoolhouse.—W. J. Joos, District Clerk.

**Woodsfield, O.**—Bids will be received, June 15, for a school building.—W. W. Glozen-camp, President Board of Education.

#### CONTRACTS AWARDED

**Nampa, Idaho.**—The contract for the school building at Lakeview has been let to Fred Armstrong for \$19,585.

**Davenport, Iowa.**—The contract for constructing a high school building has been let to Anton Zorack, Dubuque.—J. J. Ralston, Waterloo, Architect.

**Louisville, Ky.**—The contract for the Coliseum has been awarded the Home Building Company at \$75,000.

**Milville, N. J.**—The contract for the school building has been awarded to Henry Hoffman.

**Ocean City, N. J.**—The contract for a high

school building has been let to Joseph Shulman, Bridgeton, N. J., at \$41,000.

**Fingal, N. D.**—The contract for the jail was awarded Frank Frederickson.

**Backus, Minn.**—The contract for the Town Hall was let to H. H. Vernon at \$1,271.

**Leviston, Minn.**—The contract for a high school was let to A. G. Lundblad, Rushford, Head Rose.

**Franklin, Minn.**—The contract for erecting a Town Hall at Birch Corley has been awarded Johnson Brothers.

**West Concord, Minn.**—The contract for the jail has been let to Smith and Barr at \$950.

**New York, N. Y.**—The contract for electrical equipment in Public School 69, Borough Manhattan, was awarded Commercial Construction Company at \$3,950.

**Mount Pleasant, Pa.**—The contract for the armory on Eagle street has been awarded Frank Hurd.

**Soldiers' Grove, Wis.**—The contract for the school building has been awarded George E. Dako, of Sparta, at \$10,703.

#### BRIDGES

**Gadsden, Ala.**—Surveys are being made for the Louisville and Nashville Railway bridge across the Corsa river.—W. H. Courtenay, Louisville, Ky., Engineer.

**Fort Smith, Ark.**—About \$500,000 will be expended by the St. Louis, Iron Mountain and Southern Railway in constructing a bridge over the Arkansas river.—A. L. Baker, Baring Cross, Engineer.

**Fort Gibson, I. T.**—Plans are being prepared for a bridge across the Arkansas river at Hyde Park, to be 1,300 feet long and to cost \$50,000.

**Ottawa, Kan.**—Two bridges have been asked for over Walnut creek, southwest of Weelville.

**Topeka, Kan.**—Plans are being considered for constructing two steel bridges across Kaw river, which were washed away by floods.

**Minneapolis, Minn.**—It is recommended by County Surveyor W. E. Strooper that all wooden bridges recently washed away be replaced by concrete bridges.

**Minneapolis, Minn.**—The Penn avenue bridge has been washed away, owing to a break in the dam at Edina Mills.

**Durhamville, N. Y.**—Governor Higgins has signed a bill appropriating \$76,000 for an equeduct or culvert over Oneida creek between Oneida and Madison counties.

**Pendleton, Ore.**—The bridge over the Umatilla river has been washed away by floods.

**Reading, Pa.**—A petition signed by citizens has been presented, asking for a modern viaduct over Stoyers creek to replace the wooden bridge.—C. H. Rhul, Petitioner.

**Huron, S. D.**—Bridges have been asked for in Grant and Lake Byron townships and between Beedle and Hand counties over Turtle creek.

**Manchester, Va.**—An ordinance is before the Council providing for the issue of \$250,000, 4 per cent., 50-year bridge bonds.

**Walla Walla, Wash.**—Two bridges have been carried away by floods; they will be rebuilt.

#### PROPOSED WORK

**Fort Gibson, I. T.**—The Muskogee Electric Traction Company has completed plans for a bridge across the Arkansas river, at a cost of about \$130,000.

**Detroit, Mich.**—It is proposed by the People's Railway Company who are seeking franchise, to erect a \$400,000 bridge from Jefferson avenue to Bell Isle.

**Grand Rapids, Mich.**—A bridge will be constructed over Indian creek at Broadway.—City Engineer Anderson.

**Binghamton, N. Y.**—Bids will be received for repairs to the Chanango street viaduct at a cost of \$8,000.

**Niagara Falls, N. Y.**—It is proposed to build a bridge across the Niagara river below the Falls.—The Niagara Frontier Bridge Company.

**Xenia, O.**—A bond issue of \$26,470 has been authorized for erecting and rebuilding bridges.

**Kingtree, S. C.**—Bids will be received for constructing a steel bridge across Black river.—G. G. Graham, Supervisor of Williamsburg County.

**Knoxville, Tenn.**—Plans have been made for three bridges over First creek, one of concrete reinforced with steel and two with steel girders.—W. C. Crozer, City Engineer.

**Fort Worth, Texas.**—Bids will be received for a steel bridge across Rush creek.—C. M. McKenna, County Auditor.

**Crystal Hill, Va.**—Bids will be received for constructing a bridge two spans, 150 feet each, across Stanton river.—E. R. Monroe, Clerk.

**Richmond, Va.**—It is proposed to purchase the Mayo's bridge property and to construct a bridge.

#### CONTRACTS TO BE AWARDED

**Denver, Col.**—Bids will be received, June 16, for constructing a bridge over the Rio Grande river at Alamosa.—T. W. Jaycox, State Engineer.

**Richmond, Ind.**—Bids were opened, June 9, for constructing a bridge in Clay township.—C. E. Wiley, T. E. Clark, John F. Dynes, Wayne County Commissioners.

**Ottumwa, Iowa.**—Bids will be received, June 18, for constructing a pile bridge across Head Rose.

**Vernon Center, Minn.**—Bids were opened, June 6, for steel extensions to the bridges.—Edgar Weaver, County Auditor.

**Helena, Mont.**—Bids will be received, June 18, for building a tubular pier bridge across the Missouri river.—Percy R. Witmer, County Clerk.

**Butler, Mo.**—Bids will be received, June 17, for erecting sixteen steel bridges in Bates County.—John F. Herrell, County Clerk.

**Ellendale, N. D.**—Bids will be received, July 6, for constructing a steel or combination bridge across the Elm river between sections 20-29-64 and 35-130-64, length of span, 32 feet; also for a steel or combination across the Maple river, between sections 7 and 18-131-62.—A. W. Eygabroad, County Auditor.

**Washington Courthouse, O.**—Bids will be received, June 23, for erecting substructure and superstructure of the bridge over Bridge Run on Robinson Road.—Frank M. Kennedy, County Surveyor.

**Washington Courthouse, O.**—Bids will be received, June 23, for constructing a culvert on Columbus Pike.—Frank M. Kennedy, County Surveyor.

**Pittsburg, Pa.**—Bids will be received, June 20, for painting fifty-one county bridges.—F. P. Booth, County Auditor.

**Pittsburg, Pa.**—Bids will be received, June 20, for superstructure and masonry of two steel beam bridges, three through plate girder bridges and one stone arch bridge.—F. P. Booth, County Comptroller.

**Renton Junction, Wash.**—Bids will be received, June 14, for constructing a drawbridge over White river, at a cost of \$10,000.—Board County Commissioners.

#### CONTRACTS AWARDED

**Kokomo, Ind.**—Three contracts for bridges have been awarded as follows: Erwin township, Central States Bridge Company, Howard township, Winamac Bridge Company, Winamac, Indiana.

**Catskill, N. Y.**—The contract for constructing a bridge across Catskill creek has been awarded the F. R. Long Company, Hackensack, N. J., at \$43,500.

**New York, N. Y.**—A contract for a girder bridge has been let to the American Bridge Company by the Baltimore and Ohio Railroad Company.

**Louisa, Va.**—The contract for the bridge to connect Orange and Louisa counties has been awarded the Virginia Bridge and Iron Company, of Roanoke, Va.

#### STREET RAILWAYS

**St. Paul, Minn.**—The Twin City Rapid Transit Company will issue bonds for extending their lines.

**Eugene, Ore.**—An electric line will probably be built by the Willamette Valley Company.

**Harriman, Tenn.**—An electric line to connect the principal towns of Roanoke County is being projected.

**American Fork, Utah.**—The International Consolidated Railway Company has asked for franchise to operate an electric road.

**Tacoma, Wash.**—The Pacific Traction Company seeks a franchise for an electric railway to Steilacoom, Gravelly and American can lanes.

#### PROPOSED WORK

**Macon, Ga.**—The Atlanta, Griffin and Macon Electric Railway Company proposes to build a trolley line to Atlanta.

**Logansport, Ind.**—A franchise has been granted the Logansport and Lafayette Traction Company to build their lines on several streets.

**Toledo, O.**—The Toledo and Ottawa Beach Railway is planning to extend its line to Detroit, Mich.—L. E. Bellstein, Toledo, General Manager.

#### CONTRACTS AWARDED

**Philadelphia, Pa.**—The contract for the eastern section of the Market street subway has been let to the Millard Constructing Company.

**Guadalajara, Mex.**—The contract for the street railway has been let to E. Schondube, Mexico City.

#### PARKS

**Washington, D. C.**—A bill has been introduced by Senator Gallinger providing for the purchase of 140 acres known as the Carpenter tract, between Branch and Pennsylvania avenues, Southeast, at a cost of \$210,000, to be used for a park.

**Washington, D. C.**—It is recommended that the statue of General McClellan be erected on Washington Heights.—Secretary Taft, Senator Wetmore and Gen. Horatio C. King, New York, McClellan Statue Commission.

**Washington, D. C.**—It is recommended that \$55,000 be appropriated for improvement of Yellowstone National Park.

**Chicago, Ill.**—The West Park Board will take steps for improving parks and boulevards in its jurisdiction.

**Chicago, Ill.**—A city playground at West Polk street is to be named Dennis J. Sweene Park in honor of the late Fire Chief Sweene.

**Davenport, Iowa.**—Contracts have been let for a conservatory at Fejervary Park.

**Lexington, Ky.**—An effort is being made to purchase Ashland, the home of Henry Clay, for a public park.—M. A. Scovell, J. W. Porter, P. W. Gunstead and George Bain, Park Commissioners.

**Butte, Mont.**—The establishment of a public playground is being considered.

**New York, N. Y.**—Bids were opened, May 31, for the addition and alterations to the Casino, Central Park, as follows: Wm. Herne Company, \$25,400; George Hilderbrand, \$25,350; P. J. Ryan, \$23,995.

**New York, N. Y.**—The establishment of a public park to include sixty acres of land surrounding Kissena Lake, in the third ward, Borough of Queens, is being considered by the Board of Estimate.

**New York, N. Y.**—The New York, New Haven and Hartford road has leased twenty-two acres of land at West Farms, fronting the Bronx river, to be turned into an amusement park.

**Dickinson, N. D.**—James C. Young of Minneapolis, has given the city five acres of land for a park.

**Rochester, N. Y.**—Anderson Park is being improved according to plans by Olmstead Brothers of Brookline, Mass.

**Salem, N. D.**—About eight acres of land has been purchased and this with two and a half acres of trees offered by T. J. Todd, and the ball grounds, will be converted into a park.

**Cincinnati, O.**—A tract of 50 acres for a public park has been offered by Congressman Nicholas Longworth.

**Cleveland, O.**—The city will spend \$170,000 out of the general fund for small parks.—Daniel E. Leslie, Board of Public Service.

**Philadelphia, Pa.**—Fairmount Park is to have an additional tract of 15 acres, which has been presented by Mrs. Sallie Houston Henry.

**Reading, Pa.**—The Civic League has presented a small tract of land at Center avenue and Fifth street for a public park.

**Milwaukee, Wis.**—The Finance Committee recommends the issue of \$25,000 bonds for annual houses in Washington Park.

**Westmount, Man., Canada.**—It is proposed to build a park at Green avenue and Selbie street.

#### GARBAGE AND WASTE DISPOSAL

**Indianapolis, Ind.**—The contract for garbage disposal has been awarded the Indianapolis Sanitary Company, at \$52,000, for a period of five years.

**Portland, Me.**—Bids will be received for removing garbage from Peaks Island, for a term of three or five years.—Nathan Clifford, Chairman Sanitary Committee.

**Lancaster, O.**—It is recommended that a garbage plant be installed.

**Springfield, O.**—The question of a garbage plant is being considered.—W. H. Sleverling, City Engineer; E. T. Ridenour, Councilman.

**York, Pa.**—The garbage contract was awarded to Doran Roller.

**Vancouver, B. C.**—Plans are being prepared and bids will be asked for a garbage incinerator.—The Health Committee.

**Calgary, N. W. T., Can.**—An expenditure of \$10,000 will be made for a garbage crematory.

#### POLICE

**Winnipeg, Man., Can.**—A police station will be erected at a cost of \$85,000.—James Hooper, Architect.

**Escanaba, Mich.**—The contract for erecting a police station was awarded O. R. Johnson, \$3,824.

**St. Louis, Mo.**—Plans have been approved for erecting a three-story building for headquarters for Police Department.

**Cincinnati, O.**—It is proposed to erect a building for the Police Department at a cost of \$250,000.

**Newark, O.**—An issue of \$8,000 bonds will be made for equipping a police station.

#### MISCELLANEOUS

**Washington, D. C.**—A tentative site has been selected on Jamestown Island by Secretary Taft, Supervising Architect Taylor and Capt. Spencer Cosby, for the monument to commemorate the first permanent settlement by English.

**Washington, D. C.**—A bond issue of \$130,000 has been authorized for work on the Panama Canal.

**Jackson, Fla.**—The citizens have voted to issue \$100,000 bonds for municipal improvements.

**Cambridge, O.**—An issue of \$10,000 for improvements will be made.

**Peoria, Ill.**—The Harman Engineering Company is now draining 12,000 acres of land along the Illinois river in Jersey and Greene counties. The land belongs to Sumner R. Clarke, Col. Frederick H. Smith and Fred Luthy.

**Knoxville, Tenn.**—The Federal Monument in the National Cemetery will be repaired. The Fenton Construction Company has been awarded the contract. The cost will be \$5,000.

**Spokane, Wash.**—The International Coal and Coke Company will issue \$30,000 improvement bonds.

**Spokane, Wash.**—The Pacific States Telephone Company will expend \$50,000 making its building fireproof. Flame-proof wire and heat coils will be installed.

**High River, Man., Can.**—A municipal telephone system will be installed.

**Portage, Man., Can.**—The Council has decided to expend \$25,000 on improvements.—E. Brown, Mayor.

#### CONTRACTS TO BE AWARDED

**Bridgeport, Conn.**—Bids will be received, June 21, for dredging in Bridgeport Harbor.—Major Harry Taylor, Corps Engineers, New London.

**Delaware City, Del.**—Bids will be received, June 14, for constructing, plumbing, and electric wiring a brick post exchange and gymnasium at Fort Du Pont.—Capt. Louis F. Gerrard, Quartermaster.

**Washington, D. C.**—Bids will be received, June 19, for furnishing 6,060,000 meat inspection stamps and 65,000,000 meat inspection labels.—James Wilson, Secretary, Department of Agriculture.

**Atlanta, Ga.**—Bids will be received, June 15, for installing an ice and refrigerating plant, enlarging pump house and supplying pump at Fort Dade, Fla.—F. G. Hodgson, Chief Quartermaster.

**Chicago, Ill.**—Bids will be received, June 30, for a concrete superstructure, Chicago Harbor.—W. H. Bixby, U. S. Engineer, Federal Building.

**Chicago, Ill.**—Bids were received, June 8, for constructing two bathing houses.—Special Park Commissioners.

**Perks, Ill.**—Bids will be received, June 15, for constructing ditches requiring about 42,000 cubic yards of excavation, 3,500 feet of 24-inch tile and 500 feet of 12-inch tile.—Robert Hern, Secretary Big Creek Drainage Commission.

**Kokomo, Ind.**—Bids will be received, June 15, for constructing a steam heating plant at the County Infirmary.—County Commissioners.

#### CONTRACTS AWARDED

**New York, N. Y.**—The contract for the Pennsylvania Terminal Station has been awarded the Geo. A. Fuller Company, Fuller Building, New York. The project will involve about \$25,000,000.

**Burlington, Vt.**—Bids will be received, June 15, for \$17,000 4 per cent. improvement and refunding bonds.

**Washington, D. C.**—The Secretary of the Interior has approved the contract of the United Iron Works, of Oakland, Cal., for furnishing gates and lifting devices for the Payette-Boise project; cost, \$15,045.

#### Little Lessons on Big Things—No.

4—Next to air, WATER is the most important thing in life, and that is why on July the 4th next we shall devote a large section of our space—one-third of it at least—to this vitally interesting subject. In that issue we shall treat of all branches in relation thereto. Its Storage, Filtration, Purification and Distribution. In a word, from the CLOUDS TO THE CONSUMER, in a series of original, interesting, practical articles, written by men who know what they are writing about. Engineers—experts in their work—will describe, readers, every phase of it and it will be our object to make the number one of the most important of our series of special issues. Living fully up to the reputation we have already secured for the completeness and quality of information we have supplied in the past on other subjects, and therefore it is essential that all makers of all appliances, from the pump to the pipe, should be represented in it if they wish to secure business. They ought, therefore, without question, to advertise in the special WATER number of the MUNICIPAL JOURNAL AND ENGINEER and thus obtain for themselves better recognition by the municipalities and engineering officials of the towns and cities of the United States, the bulk of whom are our subscribers.

#### IN THE MARKET

##### AT HOME

The Selvy Smelting and Lead Co., San Francisco, Cal., wants equipment, including a sixty-ton electric traveling crane.

H. V. Stapleton, Engineer, Chattanooga, Tenn., wants the following equipment for a plant for the American Tri-Metallic Paint Co.: Barrel and keg machinery, electric lighting plant; heating apparatus; drying, crushing and pulverizing machinery; printing outfit for the advertising department.

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## Utilities, Trade Notes and News

PRINTING PRESSES.—The Miehle Printing Press and Manufacturing Co., Chicago, Ill., issue a bulletin of the news. Their shipments of presses for February, 1906, were 61 presses. Their average capacity, however, is about 50 presses per month, which is the largest output of any manufacturer of two-revolution flatbed printing presses in the world.

PUMPS.—Henry R. Worthington, 114 Liberty street, New York City, publishes a very handsome illustrated catalogue of 130 pages. The new works at Harrison, N. J., cover 34 acres of ground, contain 733,000 feet of floor space, and provide accommodations for 5,000 workmen. Steam pumps occupy the first place in the list, and large waterworks pumps bring up the end. Between are almost every known variety of pumps, all handsomely illustrated and described in detail. Besides hydraulic pumps, the company manufactures air pumps and compressors. Other specialties used in waterworks and engine rooms are described, such as feed-water heaters, disk meters, piston meters. A study of this catalogue is a liberal education in pumps.

ROLLER BEARINGS.—The Hyatt Roller Bearing Company, Harrison, N. J., have issued Bulletin 28, containing a brief account of the advantages of the Hyatt flexible roller bearing. The general principles of the various types of bearings designed to reduce friction are explained and the advantages and specific applications of the Hyatt to hangers, boxes, pulleys, etc., are given at some length.

SMALL MOTORS AND GENERATORS.—The Crocker-Wheeler Company, Ampere, N. J., in Bulletin 64 describe their form I motors and generators (motors, 3 to 45 h.p., generators, 2½ to 40 k.w.). This machine has been on the market for a number of years and is specially adapted for driving machine tools. Some modifications have been made in the frame.

STREET CLEANING CAN.—The Menzies Street Cleaner Company, Glens Falls, N. Y., manufactures an ingenious device—a dust pan used in combination with the original truck and receptacle. The mode of operation is this: the dust pan is lowered to rest on the pave-



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ment, the cart moved to a short distance beyond the part of the street to be cleaned and the dirt swept into the pan. The cart can be moved further along before the pan is emptied; when the pan is full, the operator steps to one side and by a slight forward motion raises the handle and dumps the sweepings into the cart. A very appreciable saving of time is made by the use of this arrangement as compared with a cart that has to be loaded by hand.

TRAVELING CRANES.—The Niles Bement Pond Company, 111 Broadway, New York City, issue a handsomely printed and illustrated pamphlet describing the Niles electric traveling cranes. Originally used in machine shops and foundries, outdoor cranes are now used in stone yards and material storage yards, where material can be piled closer than usual, as no alleyways are needed. A railroad freight yard without a traveling crane is seriously handicapped, as a piece of machinery may be transferred from wagon to car in a few minutes which would otherwise require an hour's work of a gang of men.

TECHNICAL BOOKS.—John Wiley and Sons, New York, have this year added to their valuable list of publications some important new volumes and additions. Among these are: Prof. Langley's Mechanics; Patton's Foundations; Spaulding's Hydraulic Cement; Taylor and Thompson's Concrete—all of interest to the Municipal Engineer.

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## INCORPORATIONS

When our readers desire to correspond with any of the following companies, they should address the company itself or a director, incorporator or other official or partner by name to the address (if given) under such name. This will prevent letters being returned and marked "unknown."

## ARKANSAS

**The Kings River Electric Light & Power Company**, Eureka Springs. To build and operate interurban lines. Capital, \$75,000. Incorporators: G. W. Matthews and others.

## CALIFORNIA

**Pacific Light & Power Company**, Los Angeles. To construct a power plant at Kernville and build an electric road to the coast. Capital, \$10,000,000. Incorporators: H. E. Huntington, president; I. W. Hellman, A. Borel, C. de Guigne, M. G. Kerchoff.

## GEORGIA

**Gate City Terminal Company**, Atlanta, Ga. To build extensive terminals for the Atlantic & Birmingham Railways. Capital, \$500,000. Incorporators: P. S. Arkwright and others.

**Augusta Connecting Railroad**. The line will be six miles in length. Capital, \$100,000. Incorporators: Jacob Phinizy, James T. Bothwell, George R. Lambard, Frederick R. Pope, William H. Barrett, and William S. Bush, of Augusta; John Skelton Williams and E. L. Bemiss, of Richmond; and J. William Mudendorf and R. Lancaster Williams of Baltimore.

## ILLINOIS

**The Black Hawk Clay Mfg. Co.**, Lane Building, Davenport, Iowa. Capital, \$80,000. Incorporators: M. Rothchild, president; Chas. S. Englebrecht, vice-president and manager; Ed. Berger, secretary and treasurer.

**The Sharon Coal and Brick Company**, Georgetown, Ill. Capital, \$30,000. Incorporators: H. W. Morris, P. H. Smith and R. W. Fisk.

**The Columbus Electrical Construction & Supply Company**, Chicago. To manufacture and deal in electrical supplies. Capital, \$15,000. Incorporators: James W. Keating, Olive L. Erwin and William Rubin.

## INDIANA

**The Standard Cement Brick Company**, South Bend, Ind. Capital, \$6,000. Incorporators: George J. Hoffman, August H. Jordan and William A. Weigand.

## INDIAN TERRITORY

**The Coal Creek Power Company**, Henryetta. To build a power plant. Capital, \$10,000. Incorporators: J. W. Stewart, W. N. Martin and William Stockleberg.

## KENTUCKY

**The Shelby County Telephone Company**, Shelbyville. To build and operate telephone and telegraph lines. Capital, \$200,000. Incorporators: E. A. Barnes, J. M. Payne, Berkeley Minor, J. J. F. Banchelli, Russell G. Quarrier, all of Charleston, W. Va.

## MAINE

**Charles E. Currier Company**. To construct docks, wharves, etc. Capital, \$50,000. Incorporators: M. W. Baldwin, president; C. E. Eaton, treasurer; M. W. Baldwin, clerk, Portland, Me.

**California Lime Company**. To make and sell lime in all its forms. Capital, \$230,000. Incorporators: F. M. Frost, president and treasurer, Boston, Mass.; Frederick Hale, clerk, Portland, Me.

**The Middlesex Stone, Brick & Tile Company**, Portland. To manufacture and deal in artificial stone, brick, tile, etc. Capital, \$250,000. Incorporator: President and treasurer, Arthur R. Torrey, of Boston, Mass.

## MASSACHUSETTS

**Snowplow & Manufacturing Company**. To manufacture and deal in snow fighting equipments. Capital, \$50,000. Incorporators: William E. Wilder, 1 Brooks Ave., Worcester, Mass., president; Henry S. Wilder, 107 Park St., Newton, Mass., treasurer; George M. Faulkner, 71 Chestnut St., Cambridge, Mass., clerk.

## MICHIGAN

**Electric Land and Development Company**, Traverse. To purchase and hold power propositions. Capital, \$50,000. Incorporators: Dan J. Albertson, president; William Thirby, vice-president; William H. Umlor, secretary; A. W. Bartak, treasurer.

## MISSISSIPPI

**Columbus Traction and Light Company**, Columbus. To construct a line of street railway. Capital, \$150,000. Incorporators: L. Marx, G. W. Heard and others.

## NEW JERSEY

**Henry Henningsen & Co.**, corner Bright and Colgate Sts., Jersey City, N. J. Tinsmiths, sheet-metal workers, slate and tile roofers, etc. Capital, \$100,000. Incorporators: Helene Henningsen, Henry Henningsen, 113 Highland Ave., Jersey City, N. J.; Henry Reymann, 256 Hudson Ave., West Hoboken, N. J.

**Bowers-Fairchild Company**, 189 Market St., Newark, N. J. Real estate, etc. Capital, \$1,000,000. Incorporators: Phillip J. Bowers, 26 Atlantic St., Newark, N. J.; William L. Fairchild, 109 Ridgewood Ave., Glen Ridge, N. J.; Thomas F. Bowers, 1000 Broad St., Newark, N. J.

**Reading Steel Casting Company**, West Orange, N. J.; machine shop, pattern shop and business; capital, \$125,000. Incorporators: Daniel W. Yocklay, 318 West 29th street; William Conover, 502 West 151st street, New York; S. J. Wheeler, 445 Seventh avenue, Roselle, N. J.

**Bridgeton Brick Company**, Broad St., Eatontown, N. J. To manufacture brick, tile, earthenware, etc.; real estate, etc. Capital, \$100,000. Incorporators: J. DeWitt Ray, as above; William W. Ridgeley, Camden, N. J.; Littleton R. Ridgeley, Baltimore, Md.

**United Transportation & Lighterage Company**, 109 Market St., Camden, N. J. Shipping and lighterage business, railway company, shipbuilders, engineers, carbuilders, etc. Capital, \$100,000. Incorporators: Frederick S. Groves, Frederick S. Groves, Jr., Percy C. Madeira, Samuel Mell, Jr., John W. Mulligan, all as above.

**International Mining Exposition Company**, 301 Market St., Camden, N. J. Conducting expositions of all mineral, chemical, precious stones, marble, granite, etc.; mining machinery, etc. Capital, \$125,000. Incorporators: William M. Porter, W. H. A. Davidson, O. J. Kloer, Chicago, Ill.; T. E. Cameron, Milwaukee, Wis.

## NEW YORK

**The Hudson Brick and Cement Company**, New York. Capital, \$20,000. Incorporators: J. W. Gannon, Nat Taylor, Jr., H. C. Vervelen.

**Williamson Light & Power Company**. Gas and electricity. Capital, \$10,000. Incorporators: Judson L. Transue, Williamson, N. Y.; Charles W. and George R. Mills, Sodus, N. Y.

**Schenectady Wall Plaster Company**. To manufacture wall plaster, etc. Capital, \$4,800. Incorporators: Charles A. Simon, John J. Howard, Isaac Smith, all of Schenectady, N. Y.

**Eastern Vitrae Mosaic Company**. To manufacture composition material for use in place of marble, brick or stone. Capital, \$20,000. Incorporators: Joseph P. Danna, 73 East 118th St.; Matthew E. Hertz, 108 West 90th St.; John Pareti, 27 Commerce St., all of New York.

**Sage Bros.** To construct buildings, etc. Capital, \$80,000. Incorporators: M. Jay Sage, 1570 47th St.; Albert K. Sage, 1437 49th St., both of Brooklyn; Charles H. Sage, Batavia, N. Y.

**Broadway Flushing Development Company**. Real estate, building. Capital, \$250,000. Incorporators: Charles E. Finlay, Greenwich and Warren Sts.; Edward J. Rickert and Charles H. Rickert, 1 West 34th St., all of New York.

**Schenectady & Southwestern Railroad Company**. Railroad. Capital, \$850,000. Incorporators: Frank J. Whan, 62 West 66th St., New York; George S. Hilton, Paterson, N. J.; Frederick V. Weshart, 45 West 35th St., New York.

**Nassau County Supply Company**. General contractors. To build roads, etc. Capital, \$10,000. Incorporators: John M. Fraser, C. Fred Johnson, John J. McCarthy, 182 Broadway, New York.

**Malette Construction Co.** General contracting, building, etc. Capital, \$50,000. Incorporators: William Wilson, William F. Humphrey, Lansing G. Haskins, Geneva, N. Y.

**Watertown Light & Power Company**. Gas and electricity. Capital, \$1,000,000. Incorporators: James T. Lynn, Detroit, Mich.; De Witt C. Middletown, George S. McCartin, Elan R. Brown, Watertown, N. Y.; John D. McMahon, Rome, N. Y.

**The Oneonta & Mohawk Valley Railroad Company**, a reorganization of the Oneonta, Cooperstown & Richfield Springs Railroad Company. Capital, \$1,800,000. Incorporators: Stephen Tilton, P. S. Babcock, W. U. Moore, W. L. Trowbridge, H. W. Acton, H. F. Poor, C. L. Schurz, New York; W. V. Varin, Brooklyn; W. G. Atkinson, Paterson.

**New York Cornice & Skylight Company**; to manufacture skylights and cornices; capital, \$5,000. Incorporators: Nathan Klinger, 70 East Third street; Samuel Brickman, 162 East Houston street, both of New York; Harry Gillman, 524 Brook avenue, the Bronx.

**Ribbed Concrete Building Company**; to erect buildings of ribbed concrete, contracting, etc.; capital, \$200,000. Incorporators: Clinton R. Folk, Mount Vernon, N. Y.; Roy F. Letson, 155 West 103d Street; Floyd Price, 149 Broadway, both of New York.

**San Antonio Docking Company**; to dock vessels, operate drydocks, elevators, warehouses, etc.; capital, \$50,000. Incorporators: Arthur W. Britton, East Orange, N. J.; J. Disbrow Baker, Yonkers, N. Y.; Samuel B. Howard, Millbrook, N. Y.

**Tempa Leveling Bolster Company**; real estate, etc.; leveling and bolstering devices, etc.; capital, \$6,000. Incorporators: Garret H. and Lena Tempas, Clymer, N. Y.; C. E. Cobb, T. J. and C. H. Newell, Sherman N. Y.

**Centerville Lighting Company**. To manufacture and sell electricity for heat, light and power purposes in Ulster and Sullivan counties, especially in the towns of Fallsburgh and Wawarsing, and in the villages of Mountaintain, Centerville, Station, Glenwild, Hurleyville and Woodburne. Capital, \$100,000. Incorporators: Nathan Lubow, George W. Lubow and Isidore D. Wolf, of Centerville.

**Curran Contracting Company**. General contractors, railroads, bridges, etc. Capital, \$10,000. Incorporators: Edwin J. Talley, 31 Nassau St., New York; E. J. McCarthy, White Plains, N. Y.; William J. McDonnell, 31 Nassau St., New York.

**United States Valve & Fitting Company**. To manufacture valves and fittings of brass, wire, steel, etc. Capital, \$16,000. Incorporators: Otto C. Drescher, 81 Hooper St., Brooklyn; James A. Stevens, 738 Sterling Pl.; Thomas J. Carrier, 1190 Fulton St.; William R. Thompson, 825 Marcy Ave., Brooklyn.

## OHIO

**The Northwestern Ohio Electric Railway Company**, Defiance. Capital, \$100,000. Incorporators: G. A. Rigrish, John Crowe, E. C. Bell, J. H. Hockman and J. W. Miller.

**The Boughtonville Telephone Company**, of Huron County. Capital, \$10,000. Incorporators: W. G. Blackmore, J. O. Palm, G. B. Catlin, S. E. Gleason, F. E. Hole, William Howard and others.

## OREGON

**The Unique Brick and Tile Company**, Portland, Ore. Capital, \$20,000. Incorporators: B. F. Hoover, A. F. Hoover, Henry Black and H. Hanni.

## PENNSYLVANIA

**The Chester Hill Electric Light, Heat & Power Company**, Phillipsburg. Capital, \$5,000.

## SOUTH CAROLINA

**The Darlington Brick Company**. Capital, \$20,000. Incorporators: Bright Williamson and J. E. Blackwell.

## VIRGINIA

**Eastern Light Company**, Norfolk; capital, \$50,000. Incorporators: W. H. Carr, Joseph H. Hopkins, J. R. W. Perry, W. W. Miller, D. G. Brown, Simon Sulters, J. W. Randolph, Matthew G. Brykin, J. W. Sheron, F. D. Cox, Willis Jones.

**Giles County Electric Railway Company**, Phillipsburg; capital, \$25,000. Incorporators: C. T. Painter, president; Thomas J. Pearson, vice-president; M. P. Farrier, secretary, Martin Williams, John W. Williams and others.

**St. Mary's Gravel Company**. To deal in gravel, quarries, lands, etc.; manufacture bricks, develop and improve real estate. Capital, \$50,000. Incorporators: R. C. Browne, president, Norfolk; Philip L. Grasty, secretary and treasurer, Danville.

## WEST VIRGINIA

**The Berkley Limestone Company**. To mine and quarry limestone, shale, clay and other minerals and to manufacture and sell all products and by-products of said minerals. Capital, \$100,000. Incorporators: Charles Warner, Alfred D. Warner, M. J. Warner, H. H. Emmert and Fred A. Wright.

**Kingwood**, the Preston Brick Company. To manufacture brick and clay products and to sell same, and own and operate a brick and clay working plant. Capital, \$5,000. Incorporators: A. Bliss McCrum, R. W. Monroe, P. J. Crogan, C. F. Shaw, J. A. Lenhart, Wm. Brown, Wm. Schaffer and C. C. Pierce, all of Kingwood.

**United Farmers Telephone Company**, Cameron. To construct and operate telephone and telegraph plants. Capital, \$10,000. Incorporators: P. R. Chapman of McCracken, Pa.; John Hogerman, Cameron; George Scherchter, J. C. Lough and A. B. Barnett, Rock Lick, W. Va.

**The Sattes Ferry Company**. To operate ferry to St. Albans; capital, \$55,000. Incorporators: Malissa Sattes, F. A. Sattes, F. S. Sattes, Daisy Sattes and James Wells.

**The Parkersburg and Ohio Bridge Company**; capital, \$500,000. Incorporators: V. B. Archer, B. S. Pope, J. A. Wethersole, C. T. Hitcher and W. J. Davidson.

## WISCONSIN

**The Premier Lighting Company**, Milwaukee. Capital, \$5,000. Incorporators: A. J. Meyer and others.

## Proposals

## Drainage Canal

Wichita, Kansas, May 11, 1906.

Sealed bids will be received at this office for the construction of the Wichita Drainage Canal until 5 o'clock p.m., June 18, 1906. The approximate amount of the work covered by this contract is as follows:

Length, 3 84-100 miles.  
Cubic Yards excavation, 286,032.  
Average width on bottom, 23 1-2 feet.  
Average cut, 9 3-4 feet.  
Sides of cut to slope 1 1-2 to 1.  
Dirt to be deposited on surface, leaving a 10-foot berm.

Clearing and grubbing to be included in price per cubic yard.

All work to be done according to plans and specifications of the City Engineer.

Bidders will be required to enclose a certified check, in the sum of \$5,000, payable to the city of Wichita, as a guarantee of good faith.

The Mayor and Council reserve the right to reject any and all bids.

R. N. DORR, City Clerk.

## Court House

The County Commissioners of Glynn County, Georgia, hereby invite sealed proposals for the construction of a County Court House. All bids must be filed by 12 o'clock noon, June 26, 1906.

Plans and specifications of the proposed building are on file at the office of the Commissioners in Brunswick, Ga.; also at the office of the County Commissioners of Fulton County, Ga., and at the offices of Charles A. Gifford and Edward S. Betts, associated architects, 18 East 17th Street, New York City. A set of plans and specifications will be furnished to parties desiring to submit bids upon application to the undersigned, accompanied by certified check for \$25, which amount will be refunded upon return of such plans and specifications. Full information will be furnished on application to the Clerk of Commissioners.

J. J. LOTT, Chairman,  
A. O. TOWNSEND, Clerk,  
Brunswick, Ga.

## Garbage Disposal

Sealed proposals will be received by City Council (Crematory Committee) until June 20, at 7:30 p.m., for the collection and removal of garbage and for the disposal of garbage.

Bidders may submit proposals for the collection and removal of garbage for a single district or for the entire city or for the disposal of garbage or for the collection and disposal together. Copies of the specifications, proposal blanks and envelopes may be had at the office of the Clerk of Council. All proposals must be placed in the sealed envelopes provided for the purpose and must be deposited in the box in the Council chamber before 7:30 p.m. on date above specified (June 28).

The right to reject any or all bids is reserved. By order of The Council

JOHN J. MONAGHAN, Clerk of Council,  
Wilmington, Del.

## Canals

## Department of the Interior,

Washington, D. C., May 12, 1906.

Sealed proposals will be received at the office of the United States Reclamation Service, Klamath Falls, Oregon, until 2 o'clock P.M., June 21, 1906, for the construction of 19 miles of canals, and 27 miles of laterals in Klamath County, Oregon, with checks, turnouts, culverts, bridges and other appurtenances, involving about 570,000 cubic yards of excavation, 1,650 cubic yards of concrete masonry, and about 35,000 feet B.M. of lumber. Plans, specifications and forms of proposal may be obtained by application to the Chief Engineer of the United States Reclamation Service, Washington, D. C., the Supervising Engineer, 1108 Union Trust Building, Los Angeles, California, or the Project Engineer, Klamath Falls, Oregon.

E. A. HITCHCOCK, Secretary.

## Power House Plant

## Office of Constructing Officer,

U. S. Soldiers' Home,

Washington, D. C., May 10, 1906.

Sealed proposals for erection of Power House, Installation of Boiler Plant, Generating Machinery, Main Switchboard, Steam Laundry Equipment, Refrigeration Plant and Power House Piping; also for Tunnels and Conduits for hot water distribution from central station, also for steam, refrigeration and electricity; for construction of Pipes and Mains in tunnels and conduits for above; Heating and Ventilating Apparatus in new mess hall and dormitory building, will be received here until June 28, 1906, and then publicly opened. Information on application.

JOHN STEPHEN SEWELL,  
Captain, Corps Engineers, Constructing Officer.

## Public Work

Office of the  
Constructing Quartermaster, U. S. Army,

187 Middle Street,

Portland, Maine, May 17, 1906.  
Sealed proposals in triplicate, subject to the usual conditions, will be received at this office until 11 A.M., June 15, 1906, and then opened in the presence of attending bidders for grading post site, sub-grading of roads, relaying railroad track, construction of roads, walks and gutters, and loaming and seeding at Fort Levett, Maine. A guaranty to the amount of 10 per cent. of bid required, which may be in the form of a certified check. Plans and specifications, with full instructions, and blanks may be consulted in the office of the Depot Quartermaster, New York City and Boston, Mass., or upon application at this office. The Government reserves the right to accept or reject any or all bids, or parts of bids. Envelopes containing proposals to be endorsed "Proposals for Grading, etc., at Fort Levett, Maine, to be opened June 15, 1906," and addressed to

MAJOR A. W. YATES,  
Quartermaster, U. S. Army.

## Sewer System

Sealed proposals for furnishing material and constructing a complete system of sewerage in Sewer District No. 1, City of Cape Girardeau, in accordance with the plans and specifications and ordinance No. 720 of said city, providing for constructing said system, will be received by the City Council of the City of Cape Girardeau, Missouri, until 8 o'clock P.M., Monday, July 2, 1906.

The work comprises about twelve miles of pipe sewers, eight to twenty-two inches in diameter, together with all necessary appurtenances.

Plans and specifications are now on file with the City Clerk at Cape Girardeau, Mo., and at the office of the engineer, Nashville, Tennessee.

Printed specifications may be obtained by addressing Geo. E. Chappell, City Clerk, Cape Girardeau, Mo.

The right is reserved to reject any and all bids.

WM. H. COERVER, Mayor,  
GEO. E. CHAPPELL, City Clerk.  
GRANBERRY JACKSON, C.E., Engineer,  
Nashville, Tenn.  
Cape Girardeau, Mo., May 15, 1906.

## Steam Roller for Sale

Department of Public Works,  
Rochester, N. Y., May 16, 1906.

Sealed bids will be received at this office until June 18, 1906, for a ten-ton steam roller, built by Aveling & Porter, Rochester, England. May be inspected by inquiring at this office. The Commissioner reserves the right to reject any or all bids.

FREDERICK T. ELWOOD,  
Commissioner of Public Works.

## Street Improvements

## Lewistown, Pa.

The Borough of Lewistown, Mifflin Co., Pa., will receive sealed bids up to June 18 for the grading, paving and curbing of Market street from the County Bridge (Juniper street), to the Five Points (Dorcas street), and Chestnut street from Dorcas street to the eastern side of Forsyth street of the Borough of Lewistown, Mifflin County, Pa.

## APPROXIMATE QUANTITIES.

20,000 square yards paving,  
6,000 feet of new curbing,  
1,250 feet of retaining stone,

7,000 yards of excavating.

Plans and specifications can be seen at the office of

WM. P. MOORE, Borough Engineer,  
Lewistown, Mifflin County, Pa.

## WANTS

## Situations Wanted

ASSISTANT SUPERINTENDENT OR GENERAL FOREMAN of machine shop or manufacturing plant; have had wide experience and can give good references; will be open for position July 1st. Address A536, Municipal Journal.

DRAUGHTSMAN—(Mechanical) designer; age 30; graduate mechanical engineer; nine years' office, two shop, on jigs, fixtures, instruments, special machinery; energetic hustler; start immediately; location immaterial. Address A508, Municipal Journal.

DRAFTSMAN'S HELPER.—By young man; steady position. FELIX WASELKOWSKI, 103 Pearsall st., Blissville, Long Island City.

DRAUGHTSMAN—Mechanical, Scandinavian, 24; technical education; seven years' experience on general machinery; New York references. Address A509, Municipal Journal.

ENGINEER, machinist, employed at present, wishes to make a change; would like position where the services of a practical man are required; factory preferred. Address A510, Municipal Journal.

ENGINEER, machinist (36); long experience with engines, dynamos, motors, ice machines; own repairs; best references; first-class. Address A512, Municipal Journal.

ARCHITECTURAL draughtsman; six years' experience factory and tenement work. Address A526, Municipal Journal.

## Situations Vacant

WANTED—Competent draughtsman of some experience to take charge of draughting room; state experience, references and salary. Address A500, Municipal Journal.

TIMEKEEPER—For building contractor; must give reference as to honesty; experience not essential. Address A501, Municipal Journal.

TRACER—Neat and rapid, familiar with mill machinery drawings. Send sample of work. Address A502 Municipal Journal.

WANTED—An Engineer for small electric lighting plant; must do own firing. Address A534, Municipal Journal.

ENGINEER—Competent man wanted for steam and electrical plant; first-class man only need apply; state experience, references and salary expected; plant located in New York, a short distance from city. Address A533, Municipal Journal.

BUILDING material salesman for plaster, side line, Jersey, Bronx, up town, Long Island; territory to good man; state experience, references. Address A532, Municipal Journal.

## Miscellaneous

A—SAN FRANCISCO CALLS FOR MEN—Architects, architectural draughtsmen and construction superintendents asked for by Mayor Schmitz. In response we have placed our entire organization at his disposal and shall co-operate with him in securing men. If you are ready to go, call or write us today. No charge will be made for our services in supplying men to rebuild the city. Hapgood's, Suite 508, 309 Broadway, New York.

FOR SALE—Twenty-four by fifty-four cylinder Corliss engine. For details inquire United States Frumentum Co., Detroit, Mich.

PATENTS SECURED PROMPTLY—Highest references from prominent manufacturers. Write for Inventors' Hand Book. Shepherd & Parker, 512 Dietz Building, Washington, D. C.

One reason why the Nash Road (the regular built road) will outlast any other road twice over, is, that it is regular built.

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But there are other reasons, reasons known to and admitted by the ENTIRE PROFESSION OF THE CIVIL ENGINEERS which make it more than twice as good. HADN'T you better ACQUAINT yourself with these reasons.

ANYBODY can say they have got the best road, but that don't make it so. WHAT REASON is there for the present DEPLORABLE SITUATION in paving affairs?

IF YOU WANT TO KNOW, ask

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SPECIAL NOTICE

In the respective following issues of the Municipal Journal and Engineer considerable space will be devoted specially to the subjects as indicated:

—1906—

July 4th	- - - - -	WATER
August 1st	- - - - -	SANITATION
September 5th	- - - - -	THE CITY BEAUTIFUL —Parks, Monuments, Etc.
October 3d	- - - - -	FIRE AND POLICE
November 7th	- - - - -	LIGHTING —Gas, Electricity, Etc.
December 5th	- - - - -	BRIDGES

BOOKS

On Street and Road Construction, Sewer Systems, and Water Supply

**CITY ROADS AND PAVEMENTS SUITED TO CITIES OF MODERATE SIZE.** Second edition, revised and enlarged.—By W. P. Judson. 200 pp. \$2.00.

**STREET PAVEMENTS AND PAVING MATERIALS.**—A Manual of City Pavements: the Methods and Materials of their Construction. For the Use of Students, Engineers, and City Officials. By Geo. W. Tillson, C. E. 8vo, xii + 532 pages, 60 figures. Cloth; \$4.00.

**A TREATISE ON ROADS AND PAVEMENTS.**—By Ira Osborn Baker, C. E. 8vo, viii + 655 pages, 171 figures, 68 tables. Cloth; \$5.00.

**THE MODERN ASPHALT PAVEMENT.**—By Clifford Richardson. 8vo, 580 pages. Cloth; \$3.00.

**HIGHWAY CONSTRUCTION.**—A Treatise on Highway Construction, Designed as a Text-book and Work of Reference for All Who May be Engaged in the Location, Construction, or Maintenance of Roads, Streets, and Pavements. By A. T. Byrne, C. E. Fourth Revised and Enlarged Edition. 8vo, xl + 895 pages, 306 illustrations. Cloth; \$5.00.

**MUNICIPAL PUBLIC WORKS: THEIR INCEPTION, CONSTRUCTION, AND MANAGEMENT.**—By S. Whinery, C. E. 341 pages. Cloth; \$1.50.

**ENGINEERING CONTRACTS AND SPECIFICATIONS.** Including a Synopsis of the Law of Contracts; engineering specifications and accompanying documents; specific, descriptive, or technical clauses in specifications, including illustrated specifications for excavations and embankments; cement, mortar, concrete and masonry; street pavements and materials; sewers; water pipe; electric light station, etc.—By Prof. J. B. Johnson. 6 x 9 in.; 566 pp. \$3.00.

**SEWER DESIGN.**—By H. N. Ogden, C. E., Asso. M. Am. Soc. C. E. 12mo, xi + 234 pages, 54 figures, 5 plates. Cloth; \$2.00.

**SEWERAGE.**—The Designing, Construction, and Maintenance of Sewerage Systems. By A. Prescott Folwell, M. Am. Soc. C. E. Fifth Edition, Revised and Enlarged. 8vo, x + 455 pages, illustrated. Cloth; \$3.00.

**SEWERS AND DRAINS FOR POPULOUS DISTRICTS;** With Rules and Formulae for the Determination of Their Dimensions Under all Circumstances.—By Julius W. Adams, C. E. One vol. 8vo, 228 pp., 84 illustrations and one folding map. Cloth; \$2.50.

**PLAT AND PROFILE BOOK FOR CIVIL ENGINEERS AND CONTRACTORS.** Containing 28 pages of Profile Paper and also handy tables for Excavation and Embankment, Strength of Materials, Size of Sewers for Various Slopes and Drainage Areas, and information for making Estimates in Electric Construction.—By H. F. Dunham. Flexible leather, oblong; 9 x 4 ins. \$1.00.

**EARTHWORK AND ITS COST.**—By L. P. Gillette. Cloth; 5 x 7 1/2 ins.; 256 pp.; illustrated. \$2.00.

**ROCK EXCAVATION METHODS AND COST.**—By Halbert P. Gillette, Author of "Earthwork and Its Cost." Cloth; 5 x 7 1/2 ins.; 384 pp. \$3.00.

Any of the above or any book in print sent promptly on receipt of price.

**EARTH AND ROCK EXCAVATION:** A Practical Treatise.—By Charles Frelini, C. E., Author of "Tunneling." With Tables, and many Diagrams and Engravings. 8vo. Cloth. Illustrated. About 365 pages. Price, \$3.00 net.

**CEMENT AND CONCRETE.**—A Treatise Designed Especially for American Engineers, Covering the Manufacture, Properties and Testing of Cement, and the Preparation and Use of Cement Mortars and Concretes. Special Attention is Given to the Costs of Cement and Concrete for Different Uses and Under Various Conditions. By Louis Carlton Sabin. 504 pages, 161 tables of tests. Price, \$5.00 net.

MUNICIPAL JOURNAL AND ENGINEER

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